Aluminum statistical review 1979

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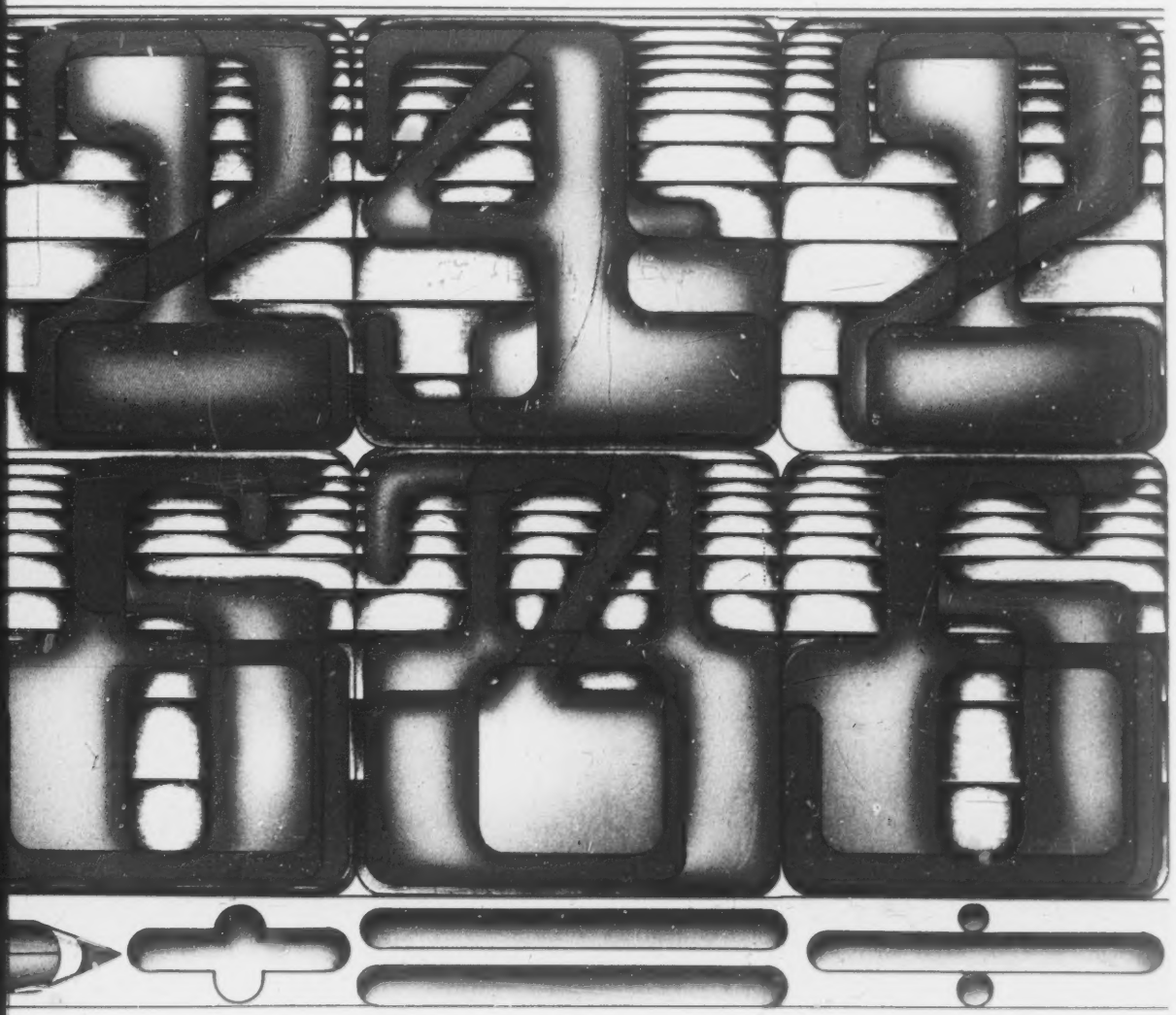

Aluminum statistical review 1979

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The Aluminum Association does not warrant the accuracy or completeness of any data in this Review. All data contained herein are subject to revision.

The Aluminum Statistical Review is an annual publication of the Aluminum Association, inc.
818 Connecticut Avenue, N.W.,
Washington, D.C. 20006.
Economic Affairs Dept.
202-862-5100.

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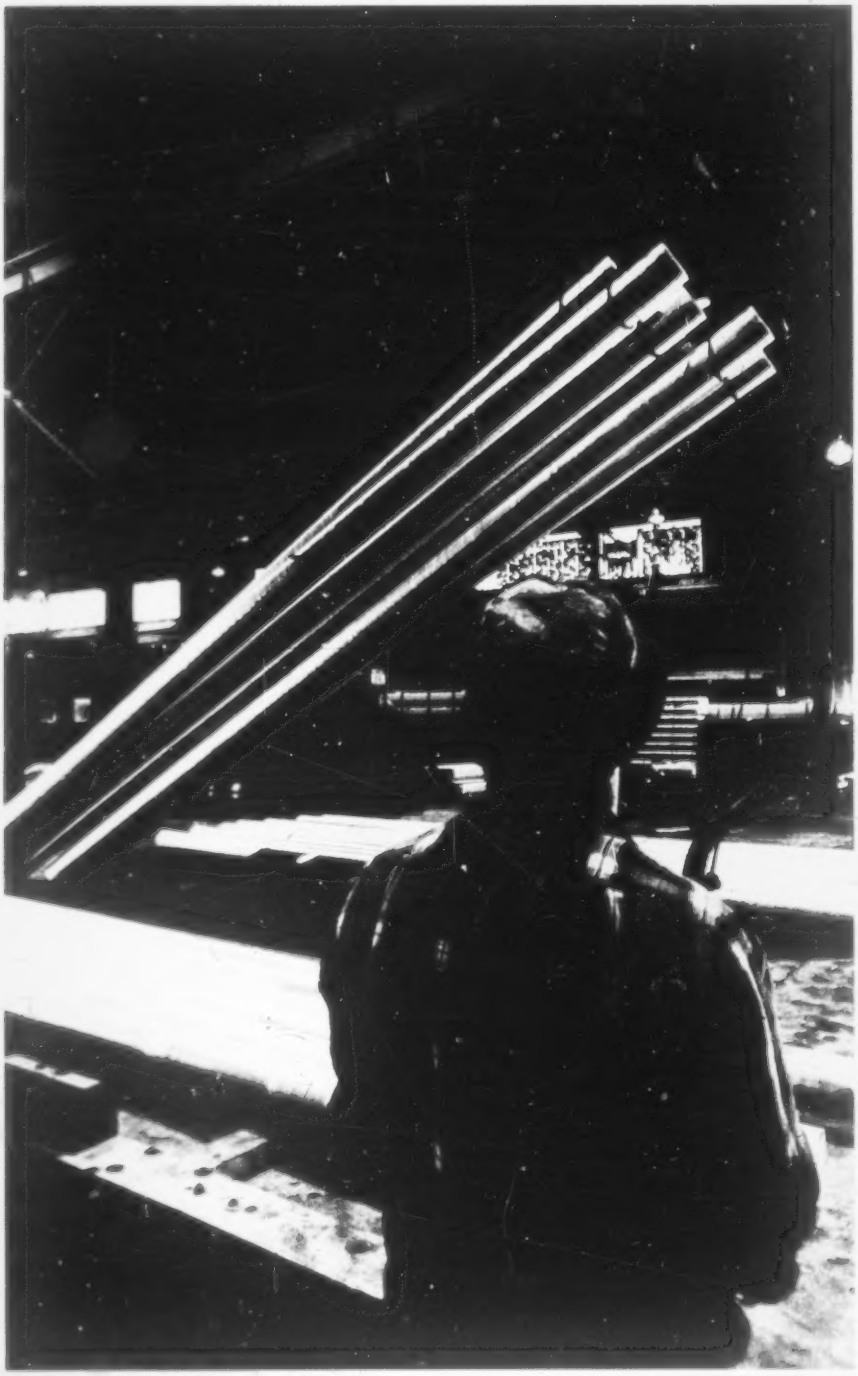
Introduction to Aluminum Statistics



An aluminum worker hoists billet for stacking; an early step in a long chain of events which will lead to the final production of products using aluminum.

The Aluminum Association's Statistical Review assembles in one place the most important data available on the aluminum industry. It includes information on every cycle from production of primary aluminum to markets for finished goods.

The Review is divided into five major sections: Shipments, Markets, Supply, U.S. Foreign Trade, and World Statistics. Each major section is preceded by an introductory statement generally describing the tables that follow. Each graph or table has a description and highlights. The Review shows detailed shipment figures for twenty three separate product categories. A glossary of industry terms is appended.

Aluminum industry net shipments * recorded their highest annual volume in history in 1979 of 14,887 million pounds, a 3.2 percent gain over revised 1978 shipments of 14,425 million pounds.

Containers and packaging became the industry's leading market for the first time with a volume of 3,223 million pounds or 21.6 percent of total 1979 shipments. Increased shipments for metal cans at 2,445 million pounds accounted for most of the market's increase.

Building and Construction slipped to second place among aluminum markets with 3,052 million pounds or 20.5 percent of total shipments. This represented a decline of 4.9 percent from the previous year's volume. Shipments to the transportation market declined 2.1 percent and totalled 3,024 million pounds, about 20.3 percent of total shipments. Increased aircraft usage did not offset declines in

* "Net" shipments exclude intra-industry shipments for further fabrication. It is the most accurate measure of industry output to markets because it eliminates duplication. Reported receipts of aluminum for further processing are subtracted.

passenger and commercial trailer usage.

The electrical market showed a 6.0% gain over 1978 with a volume of 1,560 million pounds, or 10.5 percent of the total. Equipment usage showed an 8.0 percent increase and conductor products grew 4.3 percent. On the other hand, lower appliance usage led the consumer durables markets in a 12.3 percent decline to a 1,009 million pound volume in 1979.

Shipments to the nonelectrical machinery and equipment market were 5.5 percent lower, and shipments to "other" or miscellaneous identified markets remained about the same. Exports of aluminum, however, showed a strong 36.8 percent increase over the previous year.

In 1979, a significant "statistical adjustment" was made to account for a change in required reporting procedures by certain producers to the government. The Bureau of The Census has stated that ingot data for 1979 are not comparable to 1978 and prior years.

The United States supply of aluminum in 1979 grew only 1.5 percent to 15,168 million pounds. Domestic primary production moved up 4.6 percent to a new high of 10,046 million pounds but primary imports declined 24.7 percent to 1,142 million pounds. Recovery from scrap accounted for 3,554 million pounds or 23.4 percent of supply. Mill product imports declined 12.0 percent.

For much of the decade, the U.S. aluminum industry was a net importer of aluminum. In 1979 imports of aluminum ingot, scrap and semifabricated products topped exports by only 78 million pounds and in the later months of the year, the industry was a net exporter.

Suppliers' inventories declined 369 million pounds in 1979 to 5,125 million pounds at year-end. Additional inventory data are presented on page 31.

The data in this Review were developed by the Statistical and Marketing Research Committee of the Aluminum Association, Inc. with the kind cooperation of the following organizations: Aluminum Extruders Council; National Association of Aluminum Distributors; the Bureau of Industrial Economics and the Bureau of The Census, U.S. Department of Commerce; and the Bureau of Mines of the U.S. Department of the Interior. L. P. Heely served as Editor for the REVIEW. Aluminum Association staff members, George Van Buren Day, Harriet Rusk, and Stephen St. Marie prepared the REVIEW for publication.

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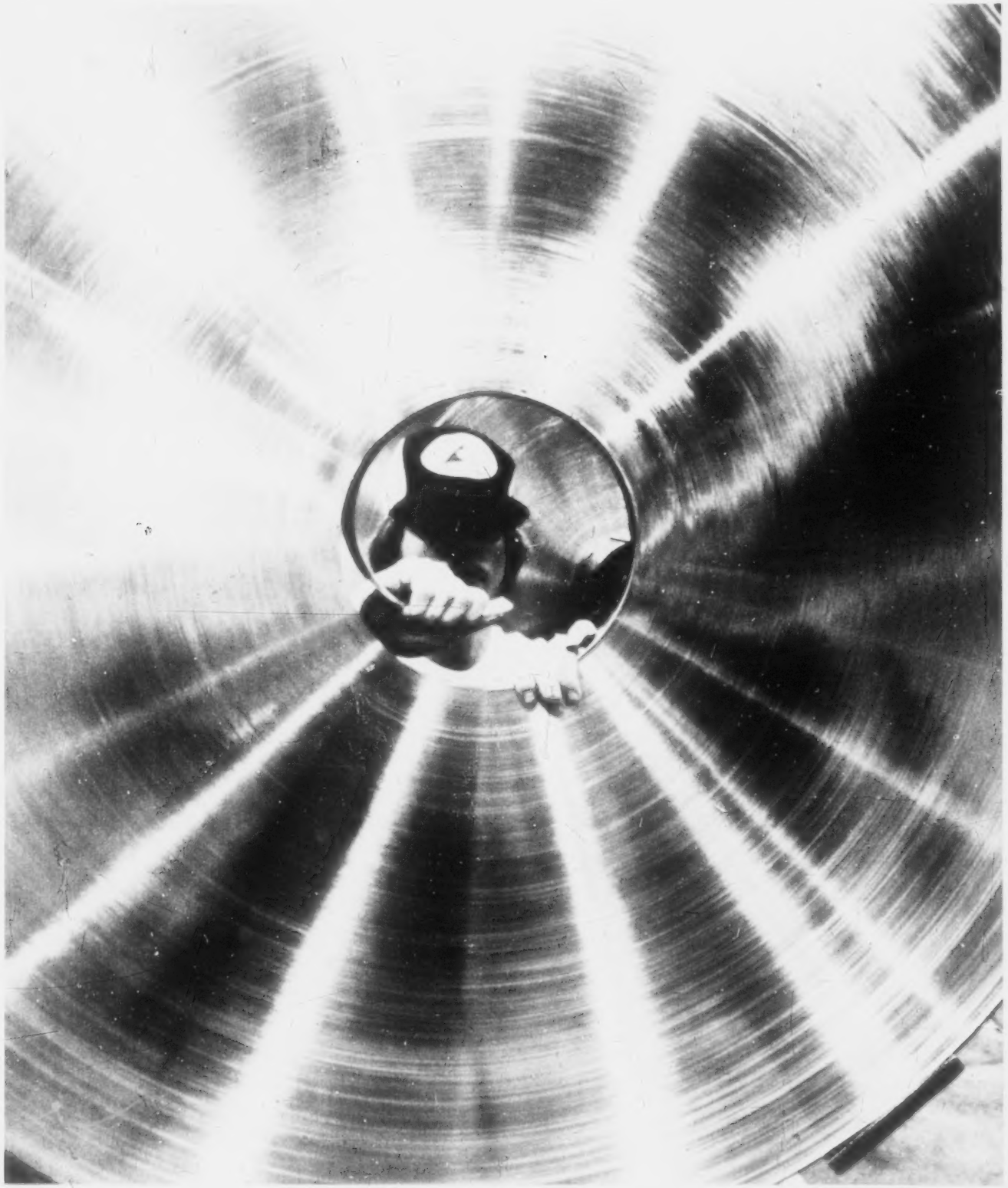
Capsule Review

Millions of Pounds	1979	1978r
Total Supply	15,168	14,938r
Primary Production	10,046	9,608
Primary Capacity (Year-end)	10,563	10,435r
Shipments to Major Markets		
Building & Construction	3,052	3,208r
Transportation	3,024	3,088r
Consumer Durables	1,009	1,151r
Electrical	1,560	1,471r
Machinery & Equipment	934	988r
Containers & Packaging	3,223	3,141r
Other	1,062	631r
Total Domestic Shipments	13,864	13,678r
Exports	1,023	747r
Total Shipments	14,887	14,425r

r — Revised

U.S. Aluminum Industry Shipments



Industry shipments of ingot and mill products totaled 14,887 million pounds in 1979, up 3.2 percent from the 14,425 million pounds shipped in 1978. Of the 1979 total, ingot shipments were 3,296 million pounds, up 23.4 percent while shipments of mill products totaled 11,591 million pounds, down 1.4 percent. Of the mill products, 350 million pounds were imports shipped to U.S. consumers, down 14 percent from the previous year. The import data for both years include reimports of mill products exported for processing and subsequently returned for further processing under the special tariff classification 806.30.

U.S. producer shipments of mill products to U.S. consumers and export were 11,241 million pounds in 1979, down 0.9 percent from the 11,346 million pounds shipped in 1978.

Aluminum industry shipments consist of ingot and mill products. Some ingot is shipped for remelting or alloying into other ingot or for fabrication into mill products. In the following section such intra-industry ingot shipments are excluded to avoid duplication. Similarly, intra-industry mill product shipments for further fabrication into other mill products are also excluded.

Net shipments of ingot and mill products represent shipments to U.S. consumers who do not convert these shipments into other ingot and mill products and for exports.

The pie chart on page 6 graphically depicts the percentage distribution of shipments of ingot and important mill product groups for the year 1979. Imported mill products shipped to U.S. consumers are not included in this pie chart because they are not available in the same detail as the domestic figures.

Total industry shipments outlined on page 7 consist of net shipments of primary and secondary ingot for export, for castings and for destructive uses; net shipments of domestic mill products; and net imports of mill products (detailed as imports to consumers on page 7). Total industry net shipments to U.S. consumers and for exports are shown separately on page 10.

Increasingly refined statistics on shipments of ingot and mill products for the years 1946-1979 are presented on pages 8-9. From an original detailing of only four mill product groups, statistics for 1968 were available for 24 separate products. Beginning in the 1970's this has been reduced to 21 separate products as a result of combining hard and soft alloys for drawn tube and some extruded products. The entire breakdown is shown, except for the grouping of four powder categories as a single item. Imported mill product shipments to U.S. consumers are excluded from this table.

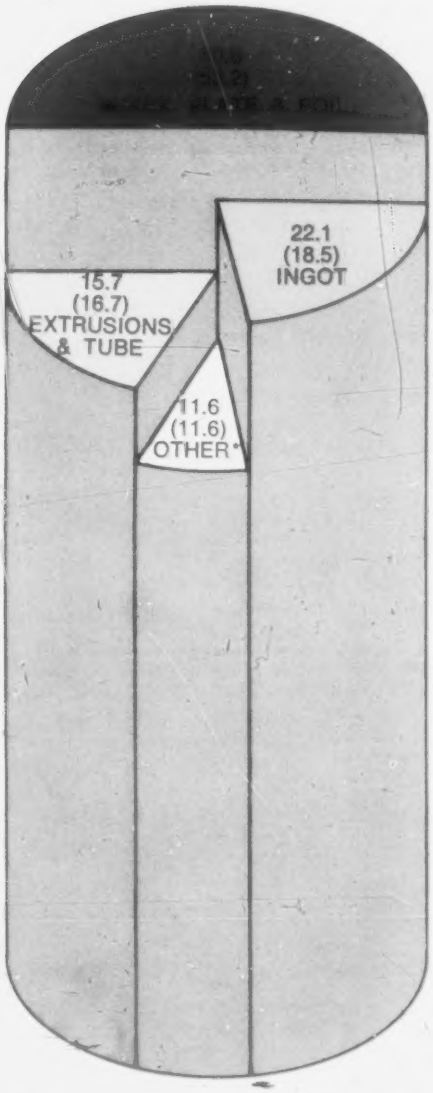
A significant portion of the ingot shipments indicated in the tables on pages 7 and 8 go to make up the castings shipments shown on page 12. Castings shipments are shown separately for each process; sand castings, permanent and semi-permanent mold castings and die castings.

General line distributor shipments are shown for five major product groups on page 11. These shipments in relation to total U.S. shipments, excluding those end products in which distributors do not participate, are also stated. Distributor shipments in 1979 totaled 1,359 million pounds, a gain of 3.0 percent over 1978 volume.

Shipments of aluminum sheet, including coiled finstock shown here, totalled 6.3 billion pounds in 1979, making it the most widely used form of the metal.

Shipments of Ingot and Mill Products

Percentage Distribution by Major Products: 1979



*Other

Conductor	5.7 (5.6)
Rod, Bar, Wire, Forgings & Impacts	4.4 (4.3)
Powder	0.9 (0.9)
Welded Tube	0.6 (0.8)

NOTE: 1978 percentages are shown in parentheses

DESCRIPTION:

Total aluminum industry shipments presented on the next page are net shipments to U.S. consumers and for export. To avoid duplication, the figures do not include any intra-industry shipments for further fabrication into mill products. Imported ingot and mill products shipped to U.S. consumers are included.

Net shipments of ingot include domestic and import shipments and represent primary and secondary ingot shipments for export, for castings and destructive uses. Net shipments of mill products are shown separately for domestic and import. Mill product imports to aluminum producers are not included in total industry shipments. These imports are further processed by the producer into another mill product which is included in the total.

Imports to consumers are included in total industry shipments. These consumers fabricate the aluminum into a finished product. Beginning in 1955, imported mill products are net of receipts by producers of mill products. Prior to 1955, receipts of imported mill products by producers of mill products were small. Beginning in 1970, imported mill products data include reimports of metal exported for processing and returned for further processing.

The pie chart illustrates the distribution of net shipments of aluminum ingot and mill product groups in 1979. It includes net shipments of ingot and domestic mill products but excludes imported mill products, because import data are not available in the same detail as domestic shipments of mill products. The distribution is based on data shown on pages 8 and 9. The imported mill products are shown on page 7.

HIGHLIGHTS:

Total net shipments in 1979 amounted to 14,887 million pounds, 3.2 percent higher than the 14,425 million pounds shipped in 1978. In the period 1969-1979 aluminum industry shipments have increased an average 3.2 percent annually.

As illustrated in the adjacent chart, the largest product category of sheet, plate and foil represented 50.6 percent of total shipments in 1979 (53.2% in 1978). Ingot (for castings, destructive uses and exports) accounted for 22.1 percent (18.5% in 1978) and extruded products and tube shipments were 15.7 percent (16.7% of 1978 total shipments).

Sheet, plate and foil volume of 7,540 million pounds were down 2.8 percent from 1978. Extruded products and tube shipments totaled 2,531 million pounds, up 3.9 percent from the previous year.

Total Industry Shipments 1942-79

Millions of pounds, Net shipments

Year	Total	Mill Products		
		Ingot	U.S. Producer	Imported
1942	1,452.7	507.4	933.6	11.7
1943	2,217.2	724.6	1,492.4	0.2
1944	2,566.4	952.0	1,613.0	1.4
1945	1,886.4	549.2	1,329.8	7.4
1946	1,672.4	529.2	1,140.8	2.4
1947	2,040.1	631.8	1,408.2	0.1
1948	2,282.0	629.8	1,640.2	12.0
1949	1,654.1	479.9	1,158.1	16.1
1950	2,460.6	724.6	1,713.4	22.6
1951	2,506.6	709.8	1,756.2	40.6
1952	2,694.5	811.2	1,850.4	32.9
1953	3,276.8	982.9	2,228.2r	65.7
1954	3,036.0	920.2	2,086.6	29.2
1955	4,035.1	1,205.4	2,791.8	37.9
1956	4,154.6	1,223.5	2,885.8	45.3
1957	3,880.1	1,161.6	2,677.6	40.9
1958	3,631.2	974.0	2,597.1	60.1
1959	5,061.0	1,575.0	3,386.1	100.0
1960	4,732.5	1,608.6	3,049.1	74.8
1961	4,970.1	1,536.6	3,345.1	88.4
1962	5,772.5	1,858.6	3,811.3	102.7
1963	6,377.0	2,032.6	4,257.2	87.2
1964	7,171.3	2,228.6	4,834.9	107.8
1965	8,148.4r	2,337.3	5,679.4	131.7r
1966	9,029.4r	2,340.1	6,457.5	231.9r
1967	8,944.1r	2,486.4	6,350.6	107.2r
1968	9,974.6r	2,694.8	7,167.0	112.8r
1969	10,821.9r	3,051.2	7,666.3	104.3r
1970	10,109.3r	2,594.5	7,358.0	156.8r
1971	10,425.4r	2,427.1	7,840.2	157.1r
1972	12,046.6r	2,633.8	9,246.3	166.5r
1973	14,684.5r	3,668.4	10,899.8	116.2r
1974	13,730.2r	3,178.4	10,461.0	90.8r
1975	9,928.5r	2,377.7	7,426.6	124.3r
1976	12,425.1r	2,540.1	9,705.6	178.3r
1977	12,986.0r	2,388.3	10,442.9r	154.8r
1978	14,425.3r	2,672.3r	11,346.0r	407.0r
1979	14,886.6	3,295.7	11,241.0	349.9

Detail may not add to totals due to rounding.

*SOURCES: Ingot and mill product domestic: 1942-45—Aluminum and Magnesium Division, War Production Board; 1946 to date—U.S. Department of Commerce, Bureau of The Census, Industry Division and Industry and Trade Administration, Bureau of Domestic Business Development, Office of Basic Industries—Facts for Industry 1946-1959, and Current Industrial Report Series M33-2, 1960 to date.***

Mill products imported: U.S. Department of Commerce, Bureau of The Census, Foreign Trade Division, and CIR Series M33-2.

Mill Products Imports 1961-79

Millions of pounds

Year	Total Imports Total(1)	Sheet & Plate	Rod & Bar	Other	Imports to Consumers Total(1)	Sheet & Plate	Rod & Bar	Other
1961	108.7	81.0	17.6	10.1	88.4			
1962	128.7	99.4	19.0	10.3	102.7			
1963	93.1	75.3	6.9	11.0	87.2	71.5	5.2	10.6
1964	113.1	90.4	8.2	14.6	107.8	86.3	7.0	14.5
1965	143.1r	117.4	11.9	13.9r	131.7r	113.3	5.3	13.1r
1966	254.9r	210.4	27.8	16.7r	231.9r	195.9	24.8	11.3r
1967	128.7r	85.8	25.1	17.8r	107.2r	76.0	16.2	14.9r
1968	137.6r	99.3	22.5	15.8r	112.8r	84.6	14.1	14.2r
1969	128.6r	88.9	23.1	18.6r	104.3r	72.1	15.5	16.6r
1970	193.8r	136.3	18.2	39.3r	156.8r	105.5	12.5	38.8r
1971	172.8r	126.7	12.8	33.4r	157.1r	115.3	9.4	33.3r
1972	188.9r	138.5	16.8	33.7r	166.5r	117.2	15.6	33.7r
1973	138.2r	99.5	13.2	25.5r	116.2r	80.1	10.6	25.5r
1974	109.7r	69.7	18.8	21.2r	90.8r	53.9	15.7	21.2r
1975	130.2r	107.1	12.7	10.4r	124.3r	106.6	7.3	10.4r
1976	189.0r	150.5	20.9	17.6r	178.3r	144.8	16.1	17.3r
1977	164.8r	128.7	18.1	18.0r	154.8r	124.7	12.4	17.7r
1978	484.5r	433.7	22.1	28.7r	407.0r	371.0	9.7	26.3r
1979	426.3	357.3	38.0	31.0	349.9	317.0	2.2	30.7

Imports to Aluminum Producers

1961	20.3			
1962	26.0			
1963	5.9	3.8	1.7	0.4
1964	5.4	4.1	1.2	0.1
1965	11.4	4.1	6.6	0.8
1966(2)	23.0	14.5	3.0	5.5
1967(2)	21.6	9.8	8.9	2.9
1968(2)	24.8	14.8	8.4	1.6
1969(2)	24.3	16.8	7.6	—
1970(2)	37.0	30.8	5.7	0.5
1971(2)	14.7	11.3	3.3	*
1972(2)	22.4	21.2	1.2	—
1973(2)	22.0	19.4	2.6	—
1974(2)	18.9	15.8	3.1	—
1975(2)	5.9	0.5	5.4	*
1976(2)	10.8	5.7	4.8	0.3
1977(2)	10.0	4.0	5.7	0.3
1978(2)	77.5	62.7	12.4	2.4
1979(2)	76.4	40.3	35.8	0.3

**Less than 50 thousand pounds.*

Detail may not add to totals due to rounding.

(1) Starting in 1970, includes reimports of metal exported for processing and returned for further processing (TSUSA 806.30).

(2) Product detail estimated by Aluminum Association from published ranges.

**SOURCES: U.S. Department of Commerce, Bureau of The Census, Foreign Trade Division and CIR Series M33-2.*

Shipments of Ingot and Mill Products

Net Shipments of Ingot and Mill Products
Excludes Mill Product Imports to Consumers

1946–1979 Millions of pounds, Net shipments

Year	Total aluminum	Total Ingot	Primary Ingot	Secondary Ingot [3][4]	Extrusion Ingot [3]	Total mill products	Plate, sheet & strip						
1946	1,670.0	529.2	—	—	—	1,140.8	867.0						
1947	2,040.0	631.8	—	—	—	1,408.2	1,111.2						
1948	2,270.0	629.8	—	—	—	1,640.2	1,268.3						
1949	1,638.0	479.9	—	—	—	1,158.1	790.0						
1950	2,438.0	724.6	—	—	—	1,713.4	1,163.1						
1951	2,466.0	709.8	—	—	—	1,756.2	1,073.4						
							Sheet & Plate						
							nonheat treatable		heat treatable		Foil		
1952	2,661.6	811.2	339.8	471.4	—	1,850.4	641.4		288.0		85.4		
1953	3,211.2	982.9	383.1	599.8	—	2,228.2	856.9		322.2		119.2		
1954	3,006.8	920.2	425.7	494.5	—	2,086.6	768.2		243.6		153.3		
												Forgings [2]	Impacts [2]
1955	3,997.2	1,205.4	509.9	695.5	—	2,751.8	1,049.6		295.0		198.2	70.3	
1956	4,109.3	1,223.5	520.1	703.4	—	2,885.8	1,050.6		327.0		190.5	75.7	
1957	3,839.2	1,161.6	458.2	703.4	—	2,677.6	943.8		248.7		204.0	64.3	
1958	3,571.1	974.0	368.6	605.4	—	2,597.1	944.4		209.1		199.6	50.8	
1959	4,961.1	1,575.0	751.4	803.4	20.2	3,386.1	1,284.6		231.3		252.6	53.8	
1960	4,657.7	1,608.6	852.3	665.2	91.1	3,049.1	1,203.4		184.8		249.0	50.1	
1961	4,881.7	1,536.6	690.7	701.9	144.0	3,345.1	1,256.3		237.0		270.6	56.4	
							Sheet		Plate				
							NHT	HT	NHT	HT			
1962	5,669.8	1,858.6	768.9	848.7	241.0	3,811.3	1,361.8	157.3r	108.9	82.9	297.4	79.4	
1963	6,289.7	2,032.6	859.2	885.9	287.5	4,257.2	1,626.5	165.2	126.5	77.1	322.3	84.0	
1964	7,063.5	2,228.6	946.5	995.1	287.0	4,834.9	1,903.0	167.8	124.2	79.0	356.7	88.4	
1965	8,016.7	2,337.3	1,069.3	1,126.9	141.1	5,679.4	2,179.8	223.0	109.0	97.0	395.7	96.4	
1966	8,797.6	2,340.1	987.2	1,190.4	162.6	6,457.5	2,382.4	281.5	125.7	147.2	432.2	139.2	
1967	8,836.9	2,486.4	1,063.6	1,189.1	233.7	6,350.6	2,385.6	227.4	119.5	135.6	449.4	165.2	
1968	9,861.8	2,694.8	1,154.2	1,284.3	256.3	7,167.0	2,910.8	250.2	103.5	140.0	508.7	105.7	62.1
1969	10,717.5	3,051.2	1,569.4	1,264.9	216.9	7,666.3	3,299.3	200.8	105.8	120.9	559.9	97.3	59.3
1970	9,952.5	2,594.5	1,307.0	1,126.0	161.5	7,358.0	3,376.4	126.7	94.1	91.4	558.7	71.4	49.0
1971	10,267.3	2,428.5	1,004.5	1,187.7	236.3	7,838.8	3,691.1	121.6	75.6	87.8	585.6	69.5	28.7
1972	11,880.0	2,633.8	1,000.7	1,467.9	165.2	9,246.2	4,431.4	160.6	78.8	97.1	673.2	95.3	27.5
1973	14,568.2	3,668.4	1,615.7	1,757.8	294.9	10,899.9	5,308.7	203.3	109.7	119.6	774.4	114.8	27.6
1974	13,639.5	3,178.4	1,503.5	1,457.4	217.4	10,461.1	5,087.9	216.5	157.2	164.6	748.2	112.8	25.5
1975	9,804.2	2,377.7	1,275.0	1,019.1	83.5	7,426.6	3,676.8	121.0	143.2	111.2	611.8	82.8	14.4
1976	12,245.6	2,540.1	1,108.5	1,227.6	203.9	9,705.6	5,167.0	191.9	108.4	106.5	772.3	83.1	17.1
1977	12,831.3r	2,388.3	768.5	1,443.6	176.2	10,443.0	5,505.5	300.4	104.2	130.3	805.6	105.7	15.6
1978	14,018.4r	2,672.3r	923.3r	1,658.7	90.3r	11,346.0r	5,785.4	350.0	116.1	157.1	876.6	115.7	20.7
1979	14,536.6	3,295.7	1,281.2	1,830.7	183.8	11,240.9	5,654.3	365.3	114.9	183.5	887.0	127.4	20.1

(1) A small amount of rolled structural shapes is included with the rod & bar in 1946-1961 and with extruded shapes in subsequent years.
(2) Through 1954 forgings and impacts were not reported. They were included in appropriate forging stock product categories, mainly rolled rod & bar instead of forgings.
(3) 1952-1958 Secondary ingot included extrusion ingot.
(4) Secondary ingot includes shipments by integrated companies, secondary smelters and imports.
r—Revised. Detail may not add to totals due to rounding.

Extruded shapes, tube blooms, and tubing											Rod, bar & wire[1]										Powder
126.1											130.6										17.2
123.0											157.4										16.6
171.9											183.0										17.0
150.0											203.6										14.5
258.1											269.8										22.5
312.9											345.2										24.8
Extruded Shapes								Tubing													
Soft alloys		Hard alloys						Soft alloys		Hard alloys	Rod & bar[1]		Wire, bare (non conductor)			ACSR & bare cable		Ins. or Cov. wire & cable & wire, bare (conductor)		
206.2		81.0						46.4		14.2	197.3		42.7			174.7		23.4		49.7
312.6		80.5						55.2		14.1	218.6		45.7			134.0		24.7		44.4
													Wire bare								
													Non Conductor		Con-ductor			Ins. or cov. wire & cable			
385.8		63.8						53.5		10.1	143.7		41.8		3.8	147.1		25.0		46.9	
								Drawn tube		Welded tube											
636.6		45.8						67.2		25.5	109.9		57.7		4.0	156.9		39.5		35.7	
641.0		63.5						60.2		27.6	117.8		54.4		5.5	187.4		56.1		28.4	
													Wire, bare								
645.6		61.2						56.2		26.7	116.9		50.4			181.5		50.3		28.2	
693.5		49.8						59.8		18.7	75.6		44.2			174.8		51.0		25.6	
931.3		47.9						72.9		30.0	124.6		64.6			196.7		60.8		34.9	
812.1		38.9						60.3		25.9	92.9		55.4			183.1		60.4		32.8	
884.1		50.5						64.0		35.4	100.8		52.6			232.8		68.6		35.9	
Extruded rod & bar				Extruded shapes[1]				Extruded pipe & tube													
Soft		Hard		Soft		Hard		Soft		Hard											
54.8		12.6		782.4		44.8		139.5		5.2	78.4		40.7	136.4		55.0		253.2		76.9	43.7
61.1		10.2		870.7		54.2		150.3		6.1	65.5		52.1	121.0		57.6		272.3		89.2	44.8
											Drawn tube										
											Soft		Hard								
70.5		12.6		1,016.4		41.0		158.2		4.3	60.3		6.6	77.4	146.8		63.1		309.2		103.2	46.3
68.2		14.8		1,224.3		57.5		174.9		2.7	78.8		3.7	93.7	159.7		82.6		429.3		129.4	58.8
67.2		21.5		1,335.3		97.7		190.6		6.9	92.2		7.5	91.2	151.9		103.2		507.4		165.3	111.4
43.6		18.4		1,222.7		84.5		157.4		8.5	81.7		7.5	87.8	143.0		97.7		506.2		174.7	234.0
37.3		21.1		1,363.0		70.0		170.2		11.8	84.6		8.0	106.9	130.0		100.4		492.2		214.0	276.4
42.2		21.1		1,460.2		72.3		196.1			81.8		7.2	101.6	144.3		94.7		475.1		250.5	276.0
39.7		16.8		1,369.2		43.4		176.9			80.7		3.5	92.5	110.0		93.5		499.5		260.2	204.5
37.7		16.4		1,550.6		42.1		186.1			81.6		2.7	96.3	102.2		96.8		481.8		317.1	167.5
40.5		16.6		1,838.4		44.6		193.8			89.1		3.7	116.6	181.5		106.6		453.6		371.0	226.4
48.3		18.9		2,038.6		72.2		225.6			105.7		4.6	121.7	289.4		124.1		490.2		445.2	257.4
48.8		14.9		1,807.3		66.4		219.4			110.4			116.8	268.6		131.0		541.4		446.3	177.2
55.7		12.1		1,264.3		47.7		135.9			65.7			61.6	185.8		66.3		425.1		246.3	98.9
69.9r				1,661.8		28.9		188.8			98.0			94.2	279.9(6)		79.9(6)		321.4		304.1	132.4
82.5				1,845.5		65.4		183.8			104.3			114.5	145.6r(6)		85.3(6)		351.0		376.7r	121.1(7)
113.7				2,021.9r		93.2		176.8			106.7			110.4	266.5		89.3		390.3		419.6r	135.9
100.9				1,990.1		104.2		151.9			95.9			83.4	300.9		91.3		417.4		427.5	125.6

(5) Extrusion ingot includes primary and secondary metal shipments by integrated companies, non-integrated companies, secondary smelters and imports. Includes exports and overstated domestic shipments due to insufficient reporting of receipts.

(6) Bare wire estimated by the Aluminum Association from part year reporting.

(7) Powder, n.e.c., included for only nine months of 1976 and excluded entirely for 1977.

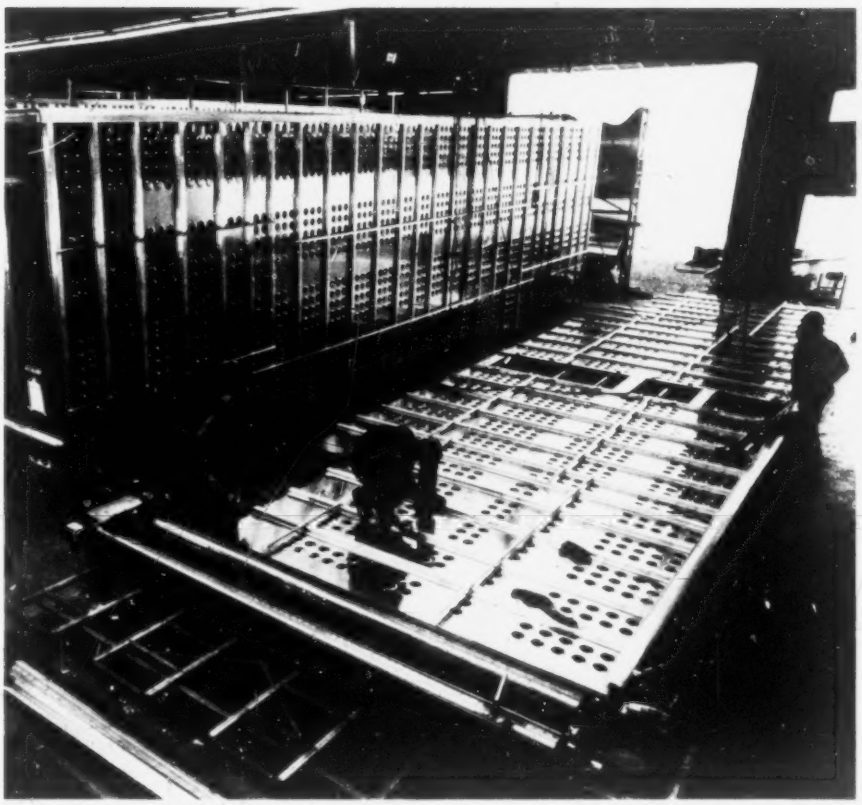
SOURCE: U.S. Department of Commerce, Bureau of The Census, Industry and Trade Administration, Bureau of Domestic Business Development, Office of Basic Industries—Current Industrial Reports since 1960; Facts for Industry 1959 and earlier.

Shipments to U.S. Consumers and Exports

DESCRIPTION:
Shipments to consumers in the United States are calculated by subtracting exports of ingot and mill products from total industry shipments.

This is slightly different from United States consumption because no adjustment is made for changes in inventories in the hands of consumers.

HIGHLIGHTS:
Net shipments to U.S. consumers in 1979 were 13,864 million pounds, a gain of 1.4 percent compared to 1978's revised consumer shipments of 13,678 million pounds. Export shipments in 1979 increased to 1,023 million pounds of 36.9 percent compared to the previous years total of 747 million pounds. Details on export shipments are found on pages 46, 50 and 51.



These livestock trailers, newly designed of aluminum, are cooler and will deliver more cargo-miles-per-gallon thanks to the extensive use of the light weight metal.

Shipments to U.S. Consumers and Exports 1942-1979

Millions of pounds, Net shipments

Year	Total	Exports	U.S. Consumers
1942	1,452.7	87.2	1,365.5
1943	2,217.2	250.3	1,966.9
1944	2,566.4	414.8	2,151.6
1945	1,886.4	24.2	1,862.2
1946	1,672.4	40.5	1,631.9
1947	2,040.1	139.8	1,900.3
1948	2,282.0	109.7	2,172.3
1949	1,654.1	82.9	1,571.2
1950	2,460.6	47.7	2,412.9
1951	2,506.6	30.6	2,476.0
1952	2,694.5	22.7	2,671.8
1953	3,276.8	36.7	3,240.1
1954	3,036.0	27.2	3,008.8
1955	4,035.1	45.1	3,990.0
1956	4,154.6	104.3	4,050.3
1957	3,880.1	98.8	3,781.2
1958	3,631.2	137.1	3,494.2
1959	5,061.0	275.7	4,785.3
1960	4,732.5	617.1	4,115.4
1961	4,970.1	325.8	4,644.3
1962	5,772.5	413.8	5,358.7
1963	6,377.0	469.4	5,907.6
1964	7,171.3	582.1	6,589.2
1965	8,150.2	573.7	7,576.5
1966	9,031.6	584.6	8,447.1
1967	8,946.4	656.6	8,289.8
1968	9,977.4	646.7	9,330.7
1969	10,825.0	1,007.1	9,817.8
1970	10,112.5	1,161.4	8,951.1
1971	10,428.4	570.0	9,858.4
1972	12,049.2	562.1	11,487.1
1973	14,686.0	939.2	13,746.8
1974	13,732.0	943.9	12,788.1
1975	9,929.4	817.8	9,111.6
1976	12,425.1	835.8	11,589.3
1977	12,986.0r	725.5	12,260.5r
1978	14,425.3r	747.4r	13,677.9r
1979	14,886.6	1,022.9	13,863.7

r — Revised

Detail may not add to totals due to rounding

SOURCES: Total shipments—see sources, page 7. Exports of Ingot and Mill Products—U.S. Department of Commerce, Bureau of The Census, Foreign Trade Division, FT-410.

General Line Distributor Shipments

DESCRIPTION:

The table shows general line distributor shipments as estimated by the Management Information Committee of the National Association of Aluminum Distributors for the years 1969-1979. Also shown are estimates of the total market in which general line distributors are participants. This is labeled Total U.S. Shipments, excluding Direct Mill Uses.

Direct mill uses are excluded because these end product manufacturers do not buy from distributors. In some cases producers make the final products. These uses include residential siding, extruded shapes for all building products, furniture tube, conduit, irrigation pipe, can stock and exports. Total U.S. shipments excluding direct mill uses thus differ from total aluminum industry shipments of mill products by the amount of direct mill uses and products not generally handled by general line distributors (foil, conductor, forgings, powder).

General line distributor shipments do not include shipments by specialty distributors. The general line distributor sells one or more mill products to more than one industry. The specialty distributor sells exclusively to one industry.

HIGHLIGHTS:

Distribution shipments in 1979 totaled an estimated 1,359 million pounds, representing a growth of 3.0 percent over 1978. Total U.S. shipments of aluminum mill products excluding direct mill uses declined an estimated 7.3 percent to a total of 4,750 million pounds. Distributor shipments thus accounted for 28.6 percent share, up from the previous year. Shares increased in four product groups, but decreased in plate.

General Line Distributor Shipments
1969-1979

Millions of pounds

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
Distributor Shipments											
Total	1,359	1,319	1,212	1,148	753	1,195	1,210	953	796	743	890
Sheet	816	812	758	753	435	708	738	566	477	429	519
Plate	152	138	112	92	77	128	106	80	74	78	92
Rod, bar & wire	176	161	137	116	85	134	142	109	88	81	114
Extruded shapes	149	138	136	121	105	147	149	136	104	100	104
Pipe & tube	66	70	69	66	51	78	75	62	53	55	61
Total U.S. Shipments excluding Direct Mill Uses											
Total	4,750	5,126r	4,449r	4,161r	2,900r	4,600	5,023	4,155	3,452	3,232	3,620
Sheet	3,018	3,393	3,013r	2,782r	1,842r	2,911	3,370	2,832	2,364	2,152	2,334
Plate	281	253	215	196r	210	295	213	167	163	180	228
Rod, bar & wire	410	398	295	376r	257	418	420	316	235	228	283
Extruded shapes	859	864	741	662	487	782	792	625	497	486	577
Pipe & tube	182	218r	185	145r	104	194	228	215	193	186	198
Distributor share (per cent)											
Total	28.6	25.7r	27.2r	27.6r	26.0	26.0	24.1	22.9	23.1	23.0	24.6
Sheet	27.0	23.9	25.2r	27.1r	23.6	24.3	21.9	20.0	20.2	19.9	22.2
Plate	54.1	54.5	52.1	46.9r	36.7	43.4	49.8	47.9	45.4	43.3	40.4
Rod, bar & wire	42.9	40.4	46.4	30.9r	33.1	32.1	33.8	34.5	37.4	35.5	40.3
Extruded shapes	17.4	16.0	18.4	18.3	21.6	18.8	18.8	21.8	20.9	20.6	18.0
Pipe & tube	36.3	32.1r	37.3	45.5r	49.0	40.2	32.9	28.8	27.5	29.6	30.8

NOTE: In this table rod, bar and wire includes extruded rod and bar; pipe and tube includes extruded, drawn and welded pipe and tube
SOURCE: Estimated by the Management Information Committee of the National Association of Aluminum Distributors

Shipments of Castings

DESCRIPTION:
This table shows shipments of aluminum castings separately for sand, permanent mold and die castings, both for sale and own use. Own use shipments are for captive consumption in the producers' end products.

There are discontinuities in this series between 1961 and 1962 and again between 1965 and 1966. The Bureau of The Census conducted a census of foundry shipments for the year 1962 and subsequently revised the figures for 1962 through 1965. A new sample drawn from the 1962 census was put into effect for the estimation of 1966 shipments.

Ingot requirements for the castings shipments shown in this table are part of the net ingot shipments shown on pages 7 and 8.

HIGHLIGHTS:
There were 2,081 million pounds shipped during 1979 versus the prior year's 2,088 million pounds. Of the total shipments, die castings accounted for 61 percent (64 percent in 1978), permanent mold castings, 23 percent (22 percent in 1978), sand castings 14 percent (12 percent in 1978) and other castings 2 percent (2 percent in 1978). Shipments for sale represented 85 percent of sand castings, 54 percent of permanent mold castings and 45 percent of die castings.

Shipments of Castings
1946-1979

Millions of Pounds

Year	Total Castings(1)	Sand Castings		Permanent and Semi-permanent Mold Castings		Die Castings	
		for sale	own use	for sale	own use	for sale	own use
1946	388.7	130.0	30.8	100.6	52.5	63.6	10.1
1947	467.8	125.0	38.3	122.4	64.4	91.9	23.7
1948	471.6	110.0	43.8	123.2	60.4	104.5	24.4
1949	351.8	85.7	36.3	87.9	35.6	81.3	17.0
1950	543.1	133.0	51.8	133.8	47.6	138.3	28.9
1951	515.1	146.4	47.0	121.3	38.7	120.5	31.0
1952	519.0	158.6	36.0	117.4	29.5	129.6	40.1
1953	658.0	175.3	39.3	165.3	34.7	182.2	57.1
1954	623.1	129.5	27.1	176.6	37.8	172.6	72.7
1955	820.8	129.9	35.6	240.4	57.9	266.6	88.6
1956	794.6	135.0	36.8	196.8	48.6	262.4	113.8
1957	751.8	115.3	28.7	180.5	51.8	264.9	108.7
1958	641.7	99.2	26.3	168.5	55.6	173.2	117.1
1959	786.4	115.3	26.7	211.3	63.6	219.2	148.9
1960	774.5	108.7	21.1	181.6	76.4	216.5	169.1
1961	763.5	101.1	23.5	160.0	101.9	225.9	150.0
1962	1,165.8	160.4	46.7	164.5	163.4	284.7	336.3
1963	1,207.2	160.0	42.9	169.4	163.3	273.0	392.3
1964	1,253.7	168.6	62.2	178.9	145.4	296.4	390.8
1965	1,409.0	193.2	75.4	184.5	146.3	364.4	439.1
1966	1,592.3	195.5	66.4	217.7	165.1	433.0	493.0
1967	1,464.5	154.7	79.1	202.3	145.3	418.9	448.1
1968	1,588.2	148.2	64.2	199.9	184.7	442.1	536.7
1969	1,698.1	154.9	66.0	243.3	190.7	430.3	597.3
1970	1,506.5	126.2	73.5	186.6	163.5	385.2	556.7
1971	1,577.2	121.7	71.1	197.7	150.8	398.4	627.8
1972	1,855.7	157.5	72.1	233.4	186.4	465.4	726.7
1973	2,026.1	182.5	77.1	243.9	196.3	520.8	783.6
1974	1,759.5	198.6	69.3	218.5	158.6	458.4	630.0
1975	1,375.5	144.9	52.4	156.7	130.7	327.8	538.4
1976	1,845.1	168.4	51.3	199.4	178.0	424.9	785.5
1977	2,009.0	184.4	42.3	223.3	216.0	469.4	835.1
1978	2,087.9r	208.2r	44.9	233.3r	226.5r	540.9r	791.3
1979	2,080.5	242.3	43.3	259.3	222.9	565.7	703.5

r — Revised

(1) Total includes small amounts of "other" castings not shown separately

SOURCE: U.S. Department of Commerce, Bureau of The Census, Industry Division

Seasonal Adjustment Factors

DESCRIPTION:
Every basic industry, including the aluminum industry, has an element of seasonality in its shipments. It is helpful for analysts to eliminate these seasonal fluctuations from raw data. The seasonal factors for use against the 1980 aluminum shipments found below combine both seasonal influences and the number of working days in each month.

In recent years the seasonal pattern for total aluminum shipments has revealed a significant peaking in the months of March through June, while all other months have traced an irregular trough. Not all products follow the same pattern. Monthly shipments of aluminum ingot and mill products are collected and published by the U.S. Department of Commerce, Bureau of The Census, Industry Division, and the Industry and Trade Administration, Bureau of Domestic Business Development, Office of Basic Industries, in Current Industrial Report Series M33-2.

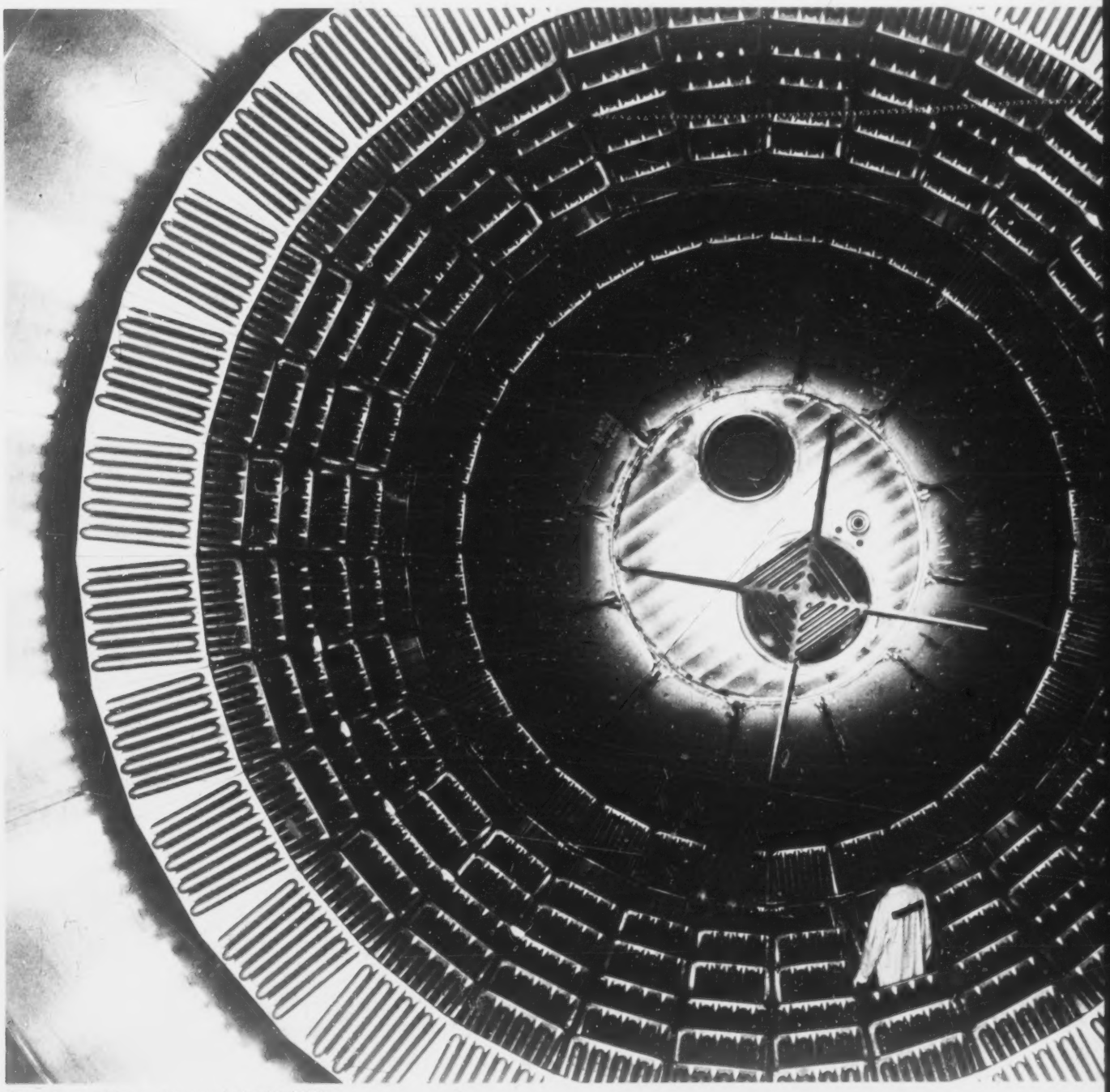
To aid users of the REVIEW in interpreting currently published monthly data, seasonal adjustment factors for the year 1980 are shown here for total mill products and for each of twelve mill products categories. The monthly factors, when divided into the unadjusted published shipment data, serve to remove from the monthly data the influence of seasonal effects and variations in the number of working days. The May 1980 mill products total factor of 106.5 indicates that May 1980 shipments are expected to be 6.5 percent higher than would have been the case if there were no working day or seasonal effects. After these seasonal factors have been applied, the adjusted series reflects the basic underlying trend and cyclical influence except for random fluctuations.

Seasonal Adjustment Factors

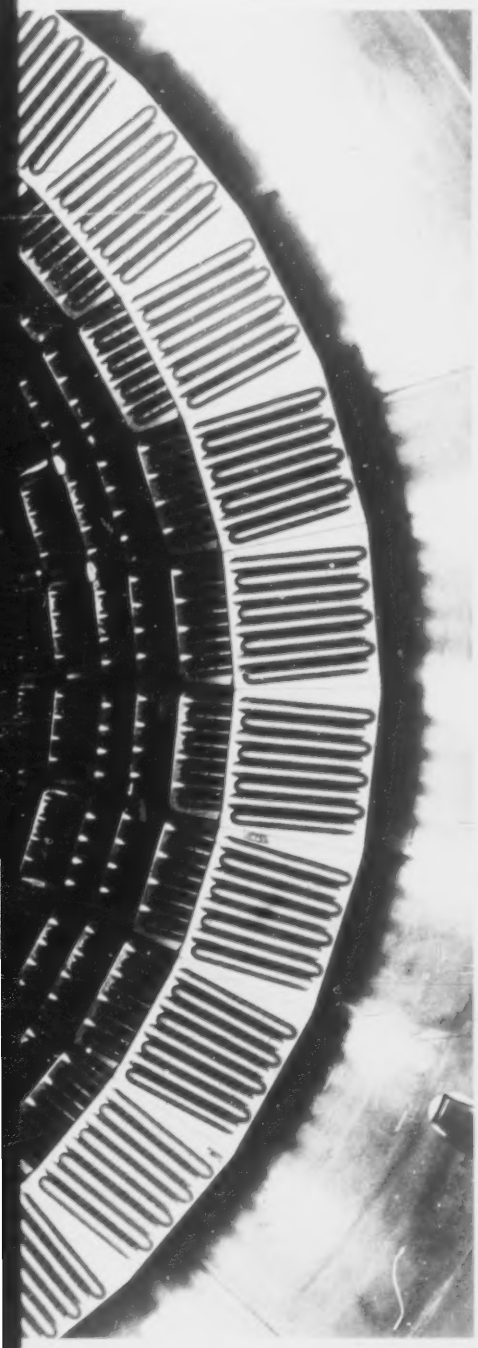
Product	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1980												
Total Aluminum	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ingot	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mill Products, Total	98.7	97.7	105.4	106.7	106.5	101.7	99.5	97.5	99.9	104.7	87.7	97.9
Sheet & Plate, nonheat-treatable	99.9	98.5	103.7	104.3	105.7	102.1	101.5	97.5	101.2	104.1	86.2	99.2
Sheet & Plate, heat-treatable	107.4	98.0	103.3	106.5	99.6	92.1	101.7	86.3	97.8	112.3	90.4	108.6
Foil	105.9	98.4	105.4	106.4	106.5	99.7	92.3	92.4	98.6	104.8	90.2	102.2
Extruded Products, total	95.9	96.5	104.2	108.3	105.0	103.0	102.6	101.5	100.5	106.6	90.2	89.8
Drawn Tube	96.0	99.2	106.9	109.8	111.2	105.3	89.3	97.8	89.2	103.6	92.9	102.0
Welded Tube	103.4	98.9	127.1	129.6	133.0	117.1	107.1	80.5	75.4	71.8	66.9	93.6
Rolled & Cont' Cast Rod & Bar	107.5	99.7	104.1	104.2	95.9	98.9	89.9	104.3	103.7	106.7	90.0	99.6
Bare Wire	102.4	94.3	108.3	107.8	109.7	106.5	96.7	90.0	93.3	104.0	90.1	99.9
ACSR & Bare Aluminum Cable	94.7	97.4	115.3	109.2	105.3	102.6	97.9	98.2	95.5	101.0	86.9	98.5
Insulated or Covered Wire	95.1	93.2	105.7	110.1	107.4	107.1	97.1	100.2	101.0	111.1	87.7	87.5
Forgings & Impacts	105.4	103.9	100.4	105.8	106.4	101.5	97.0	93.4	101.8	103.4	91.7	93.3
Powder & Paste	90.3	89.9	107.0	93.1	100.9	112.2	102.4	97.4	108.3	97.9	99.1	103.6

Note: *Due to the late arrival of final government ingot data for 1978 and 1979, seasonal adjustment factors for Total Aluminum and Ingot were not available at press time.*

Aluminum Shipments by Market



Aluminum shipments totaled 14.9 billion pounds in 1979, up 3.2 percent from the year before. Shown here is a fuel tank for the Space Shuttle featuring aluminum slosh baffles.



End use data on U.S. aluminum shipments are not available from government sources on a regular basis. Aluminum consumption figures for some industries are published by the U.S. Department of Commerce in the Census of Manufactures. The most recent such Census covers the year 1977. The Statistical and Marketing Research Committee of The Aluminum Association, Inc. has developed an annual breakdown of total aluminum industry shipments by major market since 1960.

Net shipments exclude intra-industry shipments for further fabrication. It is the most accurate measure of industry output to markets because it eliminates duplication. Reported receipts of aluminum for further processing are subtracted.

In the United States the aluminum industry has identified its major markets as building and construction, transportation, consumer durables, electrical, machinery and equipment, containers and packaging, exports and other end uses. Each of these major markets has a wide range of end uses within it.

The building and construction market utilizes aluminum in residential, industrial, commercial, farm and highway applications. These include doors, windows and screening, awnings and canopies, roofing and siding, curtain wall and store front, gutters and downspouts, highway and street barriers, lighting standards and mobile homes.

Transportation end uses for aluminum are found in the aircraft and aerospace industry, marine, rail and automotive applications, travel trailers and recreational vehicles, and cargo containers.

The consumer durable goods market covers the area of refrigeration, air conditioning, cooking utensils, furniture, pleasure boats and personal and recreational goods.

Aluminum applications in the electrical industry comprise electrical machinery & equipment, lighting fixtures & electric lamps, power transmission and distribution equipment and communications equipment. Conductor wire and cable products contribute a significant portion of shipments to the electrical market.

Machinery and equipment uses include agricultural, construction, industrial and mining machinery. Irrigation pipe, storage tanks, sewage disposal, process industries equipment, fasteners and other general components are important uses for aluminum in this market.

Cans, semirigid food containers, household and institutional foil, caps & closures, collapsible tubes and many flexible packaging uses are important components in the containers and packaging market.

The export market is self-explanatory. The last market, "other," consists of miscellaneous end uses in industries not classified among the other seven categories. This includes all domestic powder shipments and the use of aluminum for alloying metal and deoxidizing steel.

Shipments by Major Market

DESCRIPTION:
Data in considerable detail on the major markets for 1969-1979 are shown on pages 18-25. In these data, total aluminum industry shipments are the same as those shown on page 7. Major market categories are described on page 15.

Total mill products are net shipments of aluminum mill products as reported by domestic producers to the U.S. Department of Commerce, plus imported mill products (426 million pounds in 1979) less receipts by producers (76 million pounds in 1979).

An additional table on pages 24 to 25 shows trends for 1969-1979 in selected markets where the Aluminum Association has marketing programs, or which are important aluminum markets.

With this edition, exports and imports of "backed foil" have been eliminated from trade data, since for the most part they represent shipments of finished or converted foil products, not the foil mill product form.

HIGHLIGHTS
Although general business conditions began to slow during 1979, aluminum shipments showed a 3.2 percent increase over 1978. In the process, the industry marked its highest annual total. The volume of 14,887 million pounds compared with 14,425 million pounds shipped the year earlier. Total domestic shipments increased only 1.2 percent as exports grew by 36.8 percent.

Containers and packaging, became the industry's largest market for the first time in its history with a volume of 3,223 million pounds, or 21.6 percent of the total. Increased shipments for metal cans at 2,445 million pounds accounted for most of the market's 2.6 percent increase over the previous year.

The building and construction market slipped to second place with 3,052 million pounds, or 20.5 percent of total 1979 shipments. This represents a decline of 4.9 percent from 1978 volume, as building industry activity began to abate during the year.

Shipments to the transportation market declined 2.1 percent and totalled 3,024 million pounds, or 20.3 percent of total shipments. Increased aircraft usage did not offset declines in passenger car and commercial trailer usage.

The electrical market also showed a gain, 6.0 percent over 1978, with a volume of 1,560 million pounds, or 10.5 percent of the total. Conductor shipments grew 4.3 percent while equipment usage showed an 8.0 percent increase. On the other hand, lower appliance usage led the consumer durable markets in a 12.3 percent decline to a 1,009 million pound volume in 1979.

Shipments to the nonelectorial machinery and equipment market of 934 million pounds were 5.5 percent lower than in 1978, and accounted for 6.3 percent of the total.

Exports of aluminum showed a strong 36.8 percent increase over the previous year. Shipments of 1,023 million pounds accounted for 6.9 percent of the total compared with 5.2 percent in 1978.

Shipments to "Other" or miscellaneous markets of 641 million pounds showed an 0.8 percent change over the previous year's 636 million pounds.

The term "statistical adjustment" refers to net shipments of aluminum reported by the Bureau of The Census, which the Aluminum Association believes were either over or understated in the amounts indicated due to excessive or insufficient reporting of receipts. The addition of the statistical adjustment reconciles the amounts reported by the Bureau of The Census with the net shipments that the Aluminum Association feels are more correct.

In 1979, a significant statistical adjustment was made to account for a change in required reporting procedures by some producers to the government. The Bureau of The Census has stated that ingot data for 1979 are not comparable to 1978 and prior years.

Over the past 10 years, aluminum shipments have shown a 4,065 million pound (37.6 percent) increase. The average annual growth rate for this period amounted to 3.2 percent for the industry. 1979 was the highest year in this period; the lowest was the recession year 1975 with 9,928 million pounds. Shipments to domestic markets recorded a 3.5 percent annual growth rate over the 1969-1979 period.

Aluminum is used in countless industrial and consumer products. Shown here are the diverse examples of cookware, one of the oldest consumer applications, along with solar collectors for residential water heating, one of the newest. Aluminum's weight-saving characteristics are important for the armor plate of this light tank as well as the aircraft engine. Also shown are prototypes of a pickup truck box and a refuse truck body.

Shipments by Major Market

Aluminum Net Shipments* by Major Market

(Millions of Pounds)

Major Market	1979 % Distribution	1979 Amount	1978r % Distribution	1978r Amount	% Change
Building & Construction	20.5	3,052	22.2	3,208r	−4.9
Transportation	20.3	3,024	21.4	3,088r	−2.1
Consumer Durables	6.8	1,009	8.0	1,151r	−12.3
Electrical	10.5	1,560	10.2	1,471r	+6.0
Machinery & Equipment	6.3	934	6.9	988r	−5.5
Containers & Packaging	21.6	3,223	21.8	3,141r	+2.6
Other (inc. statistical adjustment)**	7.1	1,062	4.4	631r	+68.7
Total Domestic	93.1	13,864	94.8	13,678r	+1.4
Exports	6.9	1,023	5.2	747r	+36.8
Total Industry	100.0	14,887	100.0	14,425r	+3.2

N.A. Not applicable

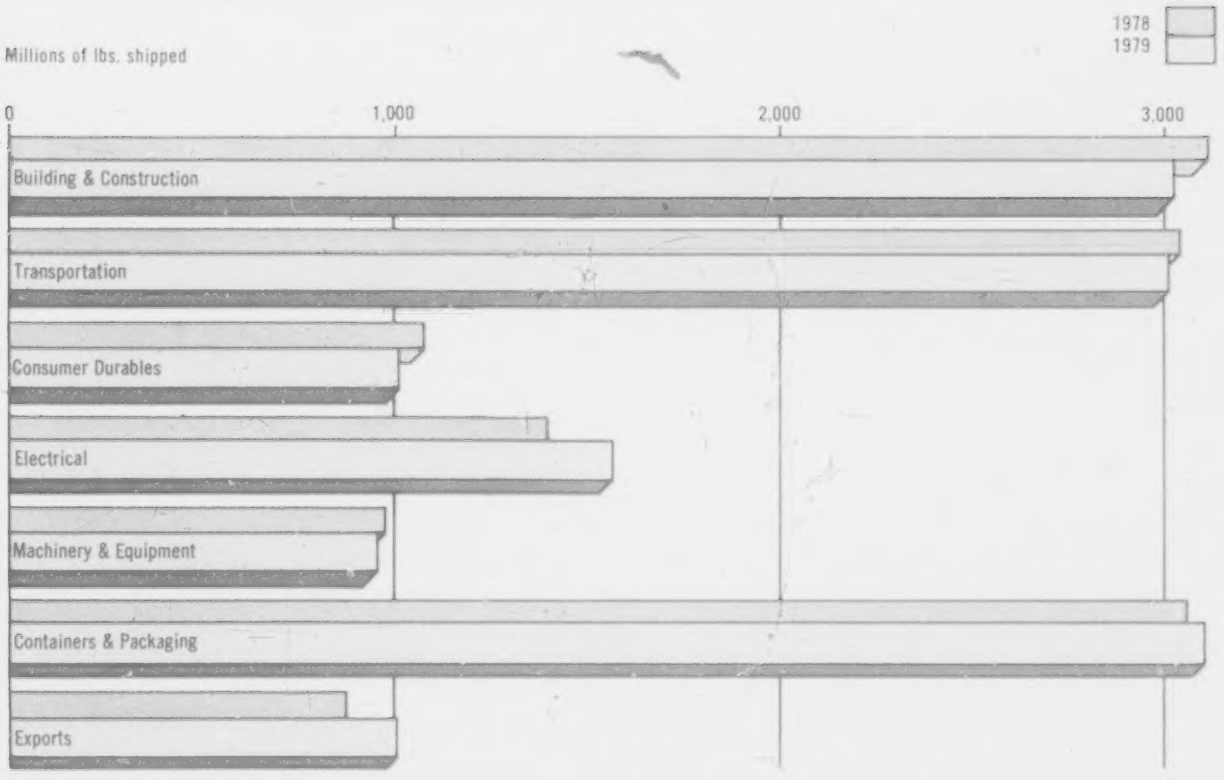
r — Revised

** "Net Shipments" exclude intra-industry shipments for further fabrication. It is the most accurate measure of industry output to markets because it eliminates duplication. Reported receipts of aluminum for further processing are eliminated.*

*** "Statistical Adjustment" accounts for net shipments of aluminum reported by the Bureau of the Census which the Aluminum Association believes were either over or understated in the amounts indicated due to excessive or insufficient reporting of receipts. The addition of the statistical adjustments reconciles the amounts reported by the Bureau of the Census with the net-shipments that the Aluminum Association feels are more correct.*

SOURCE: Estimated by the Statistical and Marketing Research Committee of the Aluminum Association, Inc.

Aluminum Net Shipments* by Major Market



Product Net Shipments* by Major Market
1969-1979

Millions of pounds

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
Total Aluminum											
Building & construction	3,052	3,208r	2,998	2,814	2,247	3,145	3,626	3,194	2,786	2,251	2,375
Transportation	3,024	3,088r	2,878	2,428	1,708	2,441	2,813	2,224	1,797	1,546	1,986
Consumer durables	1,009	1,151r	1,052	1,021	754	1,160	1,339	1,127	972	932	1,062
Electrical	1,560	1,471r	1,346r	1,257	1,216	1,844	1,854	1,536	1,423	1,359	1,425
Machinery & equipment	934	988r	910	888	649	1,045	949	750	643	605	701
Containers & packaging	3,223	3,141r	2,780r	2,584r	2,013r	2,280r	2,068r	1,818r	1,521r	1,473r	1,199r
Other	641	636r	585	580	524	748	870	830	725	791	1,075
**Statistical adjustment	+421	—5r	—276r	+31	+12	+140	+240	+15	—	—	—
Domestic, total	13,864	13,678r	12,273r	11,603r	9,123r	12,803r	13,759r	11,494r	9,867r	8,957r	9,823r
Export	1,023	747r	713r	821r	805r	927r	925r	552r	558r	1,152r	999r
ALUMINUM TOTAL	14,887	14,425r	12,986r	12,424r	9,928r	13,730r	14,684r	12,046r	10,425r	10,109r	10,822r
Ingot**											
Building & construction	95	91r	98	94	186	248	247	184	216	84	162
Transportation	1,250	1,242r	1,225	1,101	828	1,053	1,302	1,023	893	719	928
Consumer durables	306	320r	326	317	255	358	412	344	297	273	333
Electrical	197	182r	182	171	220	272	285	215	201	172	245
Machinery & equipment	304	295r	293	281	232	340	335	281	242	221	276
Containers & packaging	15	11	9	12	10	23	26	20	20	22	13
Other	333	320r	300	299	269	361	396	346	331	283	401
**Statistical adjustment	+377	—42r	—249	—47	—	+100	+200	—	—	—	—
Domestic, total	2,877	2,419r	2,184	2,228	2,000	2,755	3,203	2,413	2,200	1,774	2,358
Exports	419	253	204	312	378	423	465	221	228	820	693
INGOT TOTAL	3,296	2,672r	2,388	2,540	2,378	3,178	3,668	2,634	2,428	2,594	3,051
Mill Products											
Building & construction	2,957	3,117r	2,900	2,720	2,061	2,877	3,379	3,010	2,570	2,167	2,213
Transportation	1,774	1,846	1,653	1,327	880	1,388	1,511	1,201	904	827	1,058
Consumer durables	703	831	726	704	499	802	927	783	675	659	729
Electrical	1,363	1,289r	1,164r	1,086	996	1,572	1,569	1,321	1,222	1,187	1,180
Machinery & equipment	630	693	617	607	417	705	614	469	401	384	425
Containers & packaging	3,208	3,130r	2,771r	2,572r	2,003r	2,257r	2,042r	1,798r	1,501r	1,451r	1,186r
Other	308	316	285	281	255	387	474	484	394	508	674
**Statistical adjustment	+44	+37r	—27r	+78	+12	+40	+40	+15	—	—	—
Domestic, total	10,987	11,259r	10,089r	9,375r	7,123r	10,048r	10,556r	9,081r	7,667r	7,183r	7,465r
Exports	604	494r	509r	509r	427r	504r	460r	331r	330r	332r	306r
MILL PRODUCTS TOTAL	11,591	11,753r	10,598r	9,884r	7,550r	10,552r	11,016r	9,412r	7,997r	7,515r	7,771r

Product Net Shipments* by Major Market

1969-1979 — Millions of pounds

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
Sheet											
Building & construction	1,610	1,749	1,611	1,582	1,147	1,667	1,920	1,621	1,355	1,140	1,165
Transportation	828	932	865	669	252	591	732	609	462	366	496
Consumer durables	353	424r	375	387	287	472	547	478	440	432	487
Electrical	243	239	229	214	131	246	281	222	190	197	185
Machinery & equipment	271	313r	265	249	155	278	264	198	162	163	159
Containers & packaging	2,559	2,488	2,169	1,971	1,501	1,670	1,443	1,247	991	961	710
Other	75	82	64	58	61	73	78	100	79	124	137
**Statistical adjustment	+11	+8r	+28	+50	+38	+22	+15	—	—	—	—
Domestic, Total	5,950	6,235	5,606	5,180r	3,672	5,019	5,280	4,475	3,679	3,383	3,339
Exports	374	265	323	322	230	338	310	232	244	220	225
SHEET TOTAL	6,324	6,500	5,929	5,502	3,902	5,357	5,590	4,707	3,923	3,603	3,564
Plate											
Building & construction	1	1	1	1	1	1	1	1	2	1	2
Transportation	220	190	160	146	161	197	150	112	104	121	150
Consumer durables	1	1	1	1	1	2	1	2	1	1	1
Electrical	10	10	7	6	10	15	14	13	12	9	16
Machinery & equipment	37	41	35	32	28	63	36	25	29	28	27
Containers & packaging	—	—	—	—	—	—	—	1	1	2	8
Other	12	10	11	10	9	17	12	13	14	18	24
Domestic, Total	281	253	215	196	210	295	214	167	163	180	228
Exports	30	27	21	21	46	29	18	11	6	11	7
PLATE TOTAL	311	280	236	217	256	324	232	178	169	191	235
Foil											
Building & construction	38	37	33	25	21	31	30	24	22	16	15
Transportation	41	45	38	25	16	16	20	18	12	12	10
Consumer durables	112	122	95	83	39	69	87	60	33	34	32
Electrical	30	27	25	23	14	26	26	21	18	21	22
Machinery & equipment	20	21	14	15	12	16	18	14	8	8	8
Containers & packaging	640	633r	597r	596r	500r	583r	596r	547r	506r	485r	464r
Other	3	1	1	2	4	4	7	8	7	7	10
Domestic, Total	884	886r	803r	769r	606r	745r	784r	692r	606r	583r	561r
Exports	21	12r	13r	14r	10r	17r	8r	5r	5r	4r	3r
FOIL TOTAL	905	898r	816r	783r	616r	762r	792r	697r	611r	587r	564r
Extruded rod & bar											
Building & construction									7	7	7
Transportation									5	5	5
Consumer durables									5	6	7
Electrical									22	22	22
Machinery & equipment									8	9	9
Containers & packaging									—	—	—
Other									16	20	25
Domestic, Total									63	69	75
Exports									—	—	—
EXTRUDED ROD & BAR TOTAL	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	63	69	75

Product Net Shipments* by Major Market
1969-1979

Millions of pounds

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
Extruded shapes											
Building & construction	1,215	1,235r	1,163	1,019	812	1,074	1,302	1,250	1,087	910	928
Transportation	499	491	427	350	234	424	437	328	227	236	292
Consumer durables	117	133	106	94	70	109	113	85	71	62	71
Electrical	106	101	89	94	78	117	114	97	91	87	91
Machinery & equipment	108	115	88	81	72	84	79	67	57	53	66
Containers & packaging	1	—	—	—	—	—	—	1	1	1	1
Other	28	24	31	43	33	48	49	48	52	52	76
Domestic, Total	2,074	2,099r	1,904	1,681	1,299	1,856	2,094	1,876	1,586	1,402	1,525
Exports	22	17	9	10	14	18	17	8	8	11	8
EXTRUDED SHAPES TOTAL	2,096	2,116r	1,913	1,691	1,313	1,874	2,111	1,884	1,594	1,413	1,533
Extruded pipe & tube											
Building & construction	31	29	31	33	27	42	46	47	46	45	41
Transportation	18	24	21	18	14	18	20	16	11	9	9
Consumer durables	21	28	22	18	13	19	21	20	17	16	17
Electrical	37	41	44	46	35	56	69	61	60	62	72
Machinery & equipment	29	35	45	53	31	65	55	38	40	33	46
Containers & packaging	—	—	—	—	—	—	—	—	—	—	—
Other	2	2	2	3	3	6	8	8	6	9	14
Domestic, Total	138	159	165	171	123	206	219	190	180	174	196
Exports	15	18	20	19	14	15	10	5	7	5	3
EXTRUDED PIPE & TUBE TOTAL	153	177	185	190	137	221	229	195	187	179	199
Drawn tube											
Building & construction	3	3	4	3	3	6	6	5	4	4	5
Transportation	17	18	17	15	10	17	20	20	17	17	12
Consumer durables	34	40	40	41	26	38	42	36	33	33	34
Electrical	10	13	13	13	10	14	13	11	11	11	12
Machinery & equipment	21	21	20	23	13	34	24	15	19	18	18
Containers & packaging	—	1	—	—	—	—	—	—	—	—	—
Other	10	10	9	2	3	5	4	7	5	7	10
Domestic, Total	95	106	103	97	65	109	109	94	85	85	91
Exports	1	1	1	1	1	1	1	1	1	1	1
DRAWN TUBE TOTAL	96	107	104	98	66	110	110	95	86	86	92
Welded tube											
Building & construction	2	3	2	2	2	3	3	2	2	2	2
Transportation	1	3	2	1	1	1	—	1	—	—	—
Consumer durables	41	58r	62	53	40	55	74	67	53	55	57
Electrical	4	5	5	6	4	5	7	6	5	5	6
Machinery & equipment	44	47r	69	81	52	73	51	39	34	29	35
Containers & packaging	—	—	—	—	—	—	—	—	—	—	—
Other	2	2	2	1	1	1	1	1	1	1	1
** Statistical adjustment	−11	−8r	−28	−50	−38	−22	−15	—	—	—	—
Domestic, Total	83	110	114	94	62	116	121	116	95	92	101
Exports	—	—	—	—	—	1	1	1	1	1	1
WELDED TUBE TOTAL	83	110	114	94	62	117	122	117	96	93	102

Product Net Shipments* by Major Market

1969-1979

Millions of pounds

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
Rolled & continuous cast rod & bar											
Building & construction	29	33	28	29	25	31	32	25	13	15	17
Transportation	40	44	35	34	28	37	41	28	12	11	14
Consumer durables	15	16	14	14	11	20	21	16	4	4	5
Electrical	93	85	67*	73	55	85	86	52	11	10	17
Machinery & equipment	53	52	41	39	31	45	41	33	15	14	22
Containers & packaging	1	—	—	—	—	—	—	—	—	—	—
Other	26*	31	27	25	29	42	46	47	23	23	42
**Statistical adjustment	+84	+68	—	−97	+30	+40	+40	+15	—	—	—
Domestic, Total	341*	329	212*	311	209	300	307	216	78	77	117
Exports	62	60	28	55	52	47	60	39	25	33	31
ROLLED & CONTINUOUS CAST ROD & BAR TOTAL	402(2)*	389(2)	240(2)*	366(2)	261(2)	347(2)	367(2)	255(2)	103	110	148
Bare Wire											
Building & construction	27	26	26	25	22	41	38	34	32	27	31
Transportation	8	8	8	6	5	7	8	8	7	5	5
Consumer durables	6	6	8	10	9	13	16	16	15	13	15
Electrical	11	10	11	10	11	21	20	17	18	17	16
Machinery & equipment	28	29	24	22	14	28	24	19	17	16	18
Containers & packaging	7	8	5	5	2	4	3	2	2	2	3
Other	6*	4	4	3	3	4	4	4	3	2	3
**Statistical Adjustment	−25	−22	−12	−16	−18	—	—	—	—	—	—
Domestic, Total	68*	69	74	65	48	118	113	100	94	82	91
Exports	30	24	15	19	21	16	14	10	6	16	8
BARE WIRE TOTAL	98*	93	89	84	69	134	127	110	100	98	99
ACSR & bare cable											
Building & construction	—	—	—	—	—	—	—	—	—	—	—
Transportation	—	—	—	—	—	—	—	—	—	—	—
Consumer durables	—	—	—	—	—	—	—	—	—	—	—
Electrical	387	335	295	294	399	534	487	444	461	482	466
Machinery & equipment	—	—	—	—	—	—	—	—	—	—	—
Containers & packaging	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—
Domestic, Total	387	335	295	294	399	534	487	444	461	482	466
Exports	31	55	57	28	27	9	4	10	21	19	10
ACSR & BARE CABLE TOTAL	418	390	352	322	426	543	491	454	482	501	476
Insulated or covered wire & cable											
Building & construction	—	—	—	—	—	—	—	—	—	—	—
Transportation	—	—	—	—	—	—	—	—	—	—	—
Consumer durables	—	—	—	—	—	—	—	—	—	—	—
Electrical	428*	419r	376*	304	245	446	445	371	317	259	249
Machinery & equipment	—	—	—	—	—	—	—	—	—	—	—
Containers & packaging	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—
Domestic, Total	428*	419r	376*	304	245	446	445	371	317	259	249
Exports	—	1	1	—	1	—	—	—	—	1	1
INSULATED OR COVERED WIRE & CABLE TOTAL	428*	420r	377*	304	246	446	445	371	317	260	250

Product Net Shipments* by Major Market 1969-1979

Millions of pounds

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
Forgings											
Building & construction	1	1	1	1	1	1	1	1	—	—	—
Transportation	98	85	76	57	54	77	73	52	38	42	55
Consumer durables	2	2	2	2	2	2	3	2	2	1	1
Electrical	1	1	1	1	2	3	3	3	3	2	2
Machinery & equipment	13	13	11	7	6	14	18	18	14	10	14
Containers & packaging	—	—	—	—	—	—	—	—	—	—	—
Other	8	9	9	12	14	12	12	15	9	12	20
Domestic, Total	123	116	100	80	79	109	110	91	66	67	92
Exports	4	(NR)	6	3	4	4	5	4	3	4	5
FORGINGS TOTAL	127	116	106	83	83	113	115	95	69	71	97
Impacts											
Building & construction	—	—	—	—	—	—	—	—	—	—	—
Transportation	4	6	4	6	5	8	10	9	9	8	10
Consumer durables	1	1	1	1	1	3	2	1	1	2	2
Electrical	3	3	2	2	2	4	4	3	3	3	4
Machinery & equipment	6	6	5	5	3	5	4	3	2	2	3
Containers & packaging	—	—	—	—	—	—	—	—	—	—	—
Other	6	5	3	3	3	6	7	11	14	34	40
Domestic, Total	20	21	15	17	14	26	27	27	29	49	59
Exports	—	—	—	—	—	—	—	—	—	—	—
IMPACTS TOTAL	20	21	15	17	14	26	27	27	29	49	59
Powder											
Building & construction	—	—	—	—	—	—	—	—	—	—	—
Transportation	—	—	—	—	—	—	—	—	—	—	—
Consumer durables	—	—	—	—	—	—	—	—	—	—	—
Electrical	—	—	—	—	—	—	—	—	—	—	—
Machinery & equipment	—	—	—	—	—	—	—	—	—	—	—
Containers & packaging	—	—	—	—	—	—	—	—	—	—	—
Other	130	136	122	119	92	169	246	222	165	199	275
**Statistical adjustment	−15	−14*	−15	−3	—	—	—	—	—	—	—
Domestic, Total	115	122*	107	116	92	169	246	222	165	199	275
Exports	14	14*	15	17	7	9	12	5	3	6	3
POWDER TOTAL	129	136	122	133	99	178	258	227	168	205	278

*"Net Shipments" exclude intra-industry shipments for further fabrication. It is the most accurate measure of industry output to markets because it eliminates duplication. Reported receipts of aluminum for further processing are eliminated.

**"Statistical Adjustment" accounts for net shipments of aluminum reported by the Bureau of the Census which the Aluminum Association believes were either over or understated in the amounts indicated due to excessive or insufficient reporting of receipts. The addition of the statistical adjustments reconciles the amounts reported by the Bureau of the Census with the net-shipments that the Aluminum Association feels are more correct.

r—Revised (NR) not reported by Census

(1) Includes primary and secondary ingot for castings, destructive uses and exports.
(2) Extruded rod & bar combined with rolled and continuous cast rod & bar from 1972 to present.
(3) Impacts not reported separately prior to 1968. Impacts shown under forgings for the year 1967.

SOURCE: Estimated by the Statistical and Marketing Research Committee of the Aluminum Association, Inc.

Trends in Selected Markets

Trends in Selected Markets *

BUILDING & CONSTRUCTION

Millions of pounds

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
Windows, doors & screens, total	901	952	913	801	689	836	1,001	908	834	630	675
Ingot	40	36	40	38	98	114	117	80	95	24	61
Total mill products	861	916	873	763	591	722	884	828	739	606	614
Sheet	134	157	114	117	81	108	139	109	96	83	74
Plate	1	1	1	1	—	1	—	—	—	—	—
Extruded rod & bar	—(1)	—(1)	—(1)	—(1)	—(1)	—(1)	—(1)	—(1)	2	2	2
Extruded shapes	695	725	727	618	488	580	709	686	612	494	506
Extruded pipe & tube	—	—	—	—	—	—	—	—	1	1	—
Drawn tube	—	—	—	—	—	—	—	—	—	—	1
Rolled & continuous cast rod & bar	15	16	15	14	10	13	14	13	9	9	11
Bare wire	16	17	16	13	12	20	22	20	19	17	20
Awnings & canopies, total	157	177	145	137	93	152	221	173	150	116	112
Ingot	—	—	—	—	2	2	3	2	3	—	1
Total mill products	157	177	145	137	91	150	218	171	147	116	111
Sheet	132	150	122	117	73	127	186	142	124	97	92
Extruded shapes	21	23	19	16	14	18	25	23	17	13	12
Extruded pipe & tube	2	2	2	2	2	3	4	4	4	4	5
Drawn tube	1	1	1	1	1	1	1	1	1	1	1
Welded tube	1	1	1	1	1	1	2	1	1	1	1
Residential siding, total	488	494	509	521	393	531	572	478	392	328	336
Ingot	—	—	—	—	—	—	—	—	—	—	1
Total mill products	488	494	509	521	393	531	572	478	392	328	335
Sheet	487	493	508	519	390	528	569	477	390	326	333
Foil	—	—	—	—	—	—	—	—	1	1	1
Extruded shapes	1	1	1	2	3	3	3	1	1	1	1
Mobile homes, total	208	267	274	264	197	280	456	441	393	278	300
Ingot	4	4	4	4	7	12	17	13	14	4	10
Total mill products	204	263	270	260	190	268	439	428	379	274	290
Sheet	144	192	196	197	148	213	328	307	285	202	218
Extruded shapes	60	71	74	63	42	55	111	121	94	72	72
Bridge, street & highway, total	127	123	122	120	107	179	174	155	138	122	123
Ingot	14	13	15	15	19	22	22	20	18	16	19
Total mill products	113	110	107	105	88	157	152	135	120	106	104
Sheet	67	68	63	61	46	100	94	71	56	46	43
Plate	—	—	—	—	—	—	—	—	—	—	1
Foil	1	1	—	—	—	—	—	—	—	—	—
Extruded rod & bar	—(1)	—(1)	—(1)	—(1)	—(1)	—(1)	—(1)	—(1)	1	—	—
Extruded shapes	22	20	20	20	21	27	29	32	33	31	33
Extruded pipe & tube	22	20	23	23	19	28	28	32	30	29	27
Rolled & continuous cast rod & bar	1	1	1	1	2	2	1	—	—	—	—

TRANSPORTATION

	1979	1978	1977	1976
Trucks & buses, total	477	428r	427	359
Ingot	196	178r	185	162
Total mill products	281	250	242	197
Sheet	158	137	137	114
Plate	8	7	7	7
Rolled & continuous cast rod & bar	5	5	3	2
Extruded shapes	69	64	63	52
Extruded pipe & tube	1	1	—	—
Drawn tube	1	1	1	1
Bare wire	1	1	1	—
Forgings	37	33	29	20
Impacts	1	1	1	1
Passenger cars, total(2)	1,445	1,543r	1,479	1,242
Ingot	952	975r	952	856
Total mill products	493	568	527	386
Sheet	333	392	378	264
Plate	1	2	—	1
Foil	36	41	35	22
Rolled & continuous cast rod & bar	11	11	11	12
Extruded rod & bar	—(1)	—(1)	—(1)	—(1)
Extruded shapes	73	77	58	51
Extruded pipe & tube	10	14	14	11
Drawn tube	12	13	13	10
Bare wire	1	1	1	1
Forgings	14	14	14	9
Impacts	2	3	3	5
Trailers & semi-trailers, total	384	422r	364	278
Ingot	29	30r	28	20
Total mill products	355	392	336	258
Sheet	143	165	141	104
Plate	14	15	11	10
Rolled & continuous cast rod & bar	2	2	2	2
Extruded shapes	194	208	179	140
Extruded pipe & tube	1	1	1	1
Bare wire	1	1	2	1
Forgings	—	—	—	—

Millions of pounds

1975	1974	1973	1972	1971	1970	1969
162	366	402	278	233	166	209
87	167	181	135	123	87	144
75	199	221	143	110	79	95
36	103	123	76	63	47	57
4	11	14	8	6	4	5
1	2	2	1	1	—	—
24	57	59	40	28	22	25
—	1	1	1	1	1	1
—	—	—	—	—	—	—
—	1	1	1	1	—	—
9	22	19	14	8	4	5
1	2	2	2	2	1	2
859	1,024	1,319	1,042	889	715	857
644	763	998	795	699	569	685
215	261	321	247	190	146	172
124	154	204	164	138	96	123
—	—	—	—	—	—	—
14	12	17	15	10	9	7
9	12	16	10	2	2	3
—(1)	—(1)	—(1)	—(1)	1	1	1
42	54	43	24	13	19	23
7	9	12	10	6	4	2
6	7	15	15	13	8	6
1	2	2	2	2	2	2
8	7	6	2	1	1	1
4	4	6	5	4	4	4
146	402	455	366	253	224	289
20	37	42	31	25	16	29
126	365	413	335	228	208	260
45	150	176	152	101	89	122
6	14	18	12	12	11	12
2	4	5	3	1	1	1
71	192	209	164	111	105	123
1	1	1	1	—	—	—
1	3	3	3	3	2	2
—	1	1	—	—	—	—

CONSUMER DURABLES

Millions of pounds

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
Air conditioners, freezers, refrigerators, total	299	354r	299	283	183	303	375	312	271	281	300
Ingot	33	36r	33	30	26	34	38	30	26	25	30
Total mill products	266	318	266	253	157	269	337	282	245	256	270
Sheet	116	138	127	134	94	164	208	189	185	196	207
Foil	108	117	91	81	38	67	84	55	28	28	31
Extruded rod & bar	—(1)	—(1)	—(1)	—(1)	—(1)	—(1)	—(1)	—(1)	1	1	1
Extruded shapes	19	31	22	17	12	16	18	16	14	13	15
Extruded pipe & tube	13	18	13	11	8	12	14	13	11	11	13
Drawn tube	10	14	13	10	5	8	10	6	5	5	3
Rolled & continuous cast rod & bar	—	—	—	—	—	1	1	1	—	—	—
Bare wire	—	—	—	—	—	1	2	2	1	—	—
Portable appliances, total	63	68r	53	55	47	74	90	79	69	63	74
Ingot	34	35r	32	32	27	41	50	44	39	36	45
Total mill products	29	33	21	23	20	33	40	35	30	27	29
Sheet	24	27	16	18	16	28	36	31	27	25	27
Extruded shapes	2	2	2	2	2	3	3	3	2	2	2
Drawn tube	2	3	3	3	2	2	1	1	1	—	—
Rolled & continuous cast rod & bar	1	1	—	—	—	—	—	—	—	—	—
Cooking utensils, total	150	169	137	152	135	169	190	164	145	145	168
Ingot	25	26	24	26	24	29	32	25	21	20	26
Total mill products	125	143	113	126	111	140	158	139	124	125	142
Sheet	121	139	109	122	108	137	155	136	122	122	139
Plate	—	—	—	—	—	—	—	1	—	—	—
Extruded shapes	3	3	3	3	2	2	3	2	2	2	2
Drawn tube	—	—	—	—	—	—	—	—	—	1	1
Welded tube	—	—	—	—	—	1	—	—	—	—	—
Bare wire	1	1	1	1	1	—	—	—	—	—	—

CONTAINERS & PACKAGING

Household & institutional foil, total	290	257	259	245	232	245	224	219	210	185	167
Metal cans total mill products	2,445	2,349	2,051	1,851	1,411	1,540	1,307	1,139	905	878	637
Sheet	2,445	2,349	2,051	1,851	1,411	1,540	1,307	1,139	905	878	637
Semi-rigid food containers Total mill products	159	176	168	166	150	156	173	165	148	143	147
Sheet	22	23	15	15	9	13	14	12	10	10	12
Foil	137	153	153	151	141	143	159	153	138	133	135

r — revised

** — These "selected markets" represent either those in which The Aluminum Association has marketing programs, or which are important aluminum market categories. They only account for a portion of aluminum shipments to each major market.*

(1) Extruded rod and bar combined with rolled and continuous cast rod and bar from 1972 to present.

(2) Shipments to "Passenger Cars" cover new domestic automobile production, spare parts, accessories and after-market parts. Shipments for light trucks and vans are included in Trucks and Buses.

(3) Impacts not reported separately prior to 1968, included under forgings for the year 1967.

SOURCE: Estimated by the Statistical and Marketing Research Committee of the Aluminum Association, Inc.

U. S. Aluminum Supply

Bauxite, the ore from which aluminum is made, is transported by conveyor belt to a storage area prior to its conversion to alumina and eventually to primary aluminum.

The U.S. aluminum supply increased by 228 million pounds in 1979 to a total of 15,168 million pounds. This represents a 1.5 percent increase compared to the 1978 supply level. Primary production at 10,046 million pounds was 4.6 percent higher than the 9608 million pounds produced in 1978.

Primary imports of 1,142 million pounds were 24.7 percent below the 1978 level of 1,516 million pounds. Imports of mill products decreased 12.3 percent to 426 million pounds during 1979 as compared to 486 million pounds in 1978.

Import data for both years reflect the reimports of metal exported for processing and returned for further processing in accordance with tariff arrangements under TSUSA 806-30 (Tariff Schedules of the United States Annotated).

Secondary recovery (domestic and imports) was 3,554 million pounds. The graph on page 28 illustrates the increase in total aluminum supplies for the years 1950 through 1979 averaging 7.3 percent annually.

The table on page 29 details the total supply of aluminum and its principal sources for the years 1942 through 1979 before any adjustments for stockpile deliveries or withdrawals. The significance of the stockpile and its effect on total supply are described on page 30.

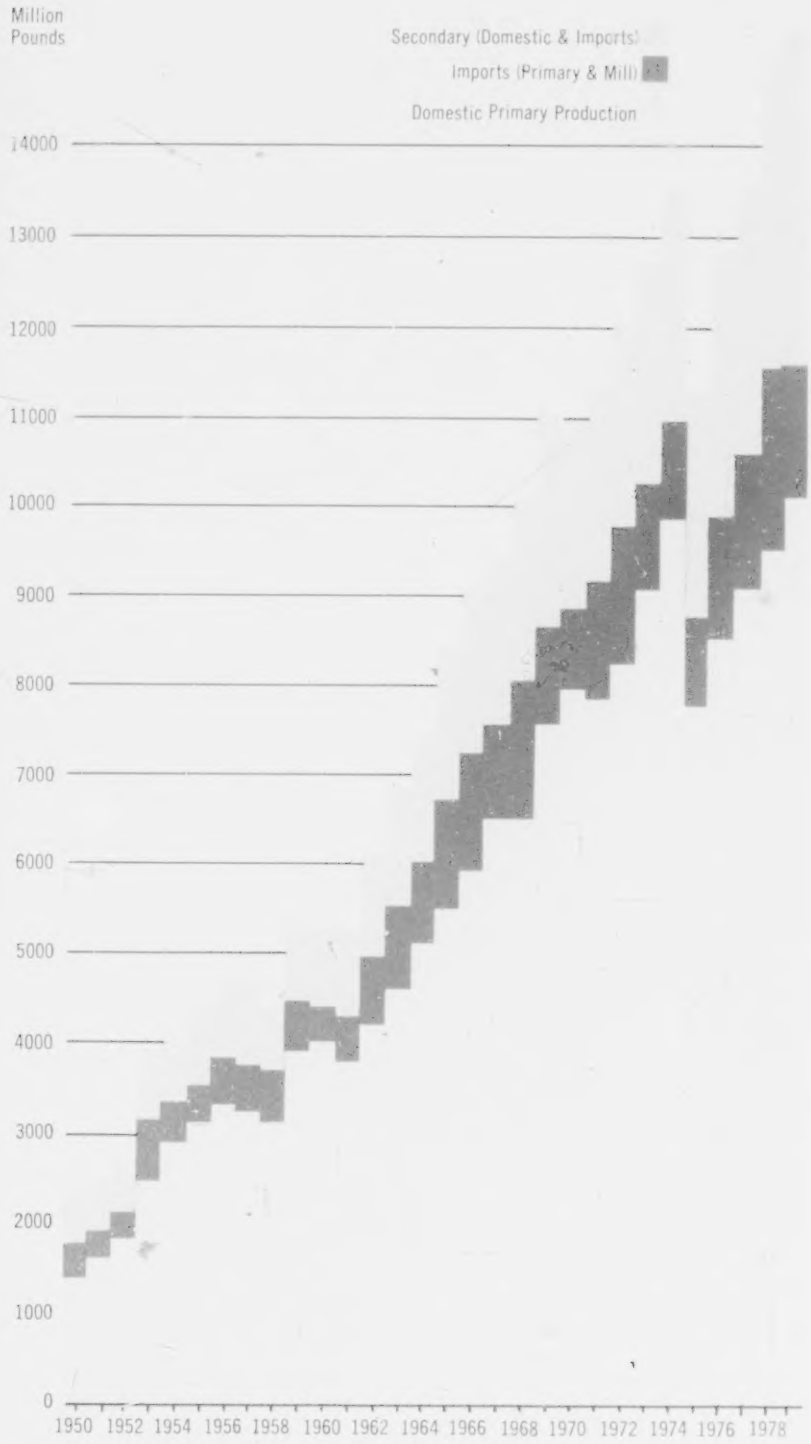
The growth of U.S. primary aluminum production over the years is outlined on the semilog graph on page 32 and detailed in the table on page 33. The average annual growth rate over 50 years has been 7.9 percent and since 1946, 8.0 percent.

Installed capacity by company is presented for the years 1948 through 1979 on pages 34 and 35. The 1979 year-end primary aluminum capacity in the U.S. was 5,281,600 tons.

Aluminum recovery from scrap is an important contributor to the total aluminum supply. Data showing the increase in this source of supply for the years 1946 through 1979 are presented on pages 40 and 41.

Total Supply

Total Supply



SOURCE: Bureau of Industrial Economics, U.S. Department of Commerce.

DESCRIPTION:
United States supply of aluminum consists of domestic primary production, primary imports, metal recovered from domestic scrap, metal recovered from imported scrap and imports of mill products. No adjustment is made in this presentation for shipments to or withdrawals from the government stockpile. This is shown on page 30.

Detailed data on United States supply of aluminum from 1950 to 1979 are shown in the table on page 29.

For a longer historical picture of domestic primary production, see pages 32 and 33. For the relationship of domestic primary production to world production, see pages 54-55. For a breakdown of imports, see pages 48-49. For further information on secondary recovery, see pages 40 and 41.

HIGHLIGHTS:

Total supply increased to 15,168 million pounds in 1979, up 1.5 percent from the 14,940 million pounds supply available in 1978. The changes versus 1978 of supply elements were:

Primary production	+ 4.6%
Primary imports	—24.7%
Secondary recovery	+ 6.2%
Imports of Mill Products	—12.3%

Since 1946 the total supply has expanded at an average rate of 7.3 percent a year. In 1979, primary production represented 66.3 percent of total supply; imports accounted for 7.5 percent; and secondary recovery represented 23.4 percent.

For the ten-year period from 1969-1979, domestic primary production increased at the rate of 2.8 percent a year. Secondary recovery grew at a 4.2 percent annual rate.

Total Supply

1942-1979

Millions of pounds

Year	Total supply, all sources	Domestic primary production	Primary imports[1]	Domestic secondary recovery[2]	Recovery from imported scrap[1][2]	Imports of mill products[3]
1942	1,660	1,042	213	393	(a)	12
1943	2,739	1,840	271	628	(a)	(a)
1944	2,409	1,553	201	651	3	1
1945	2,268	990	665	597	9	7
1946	1,486	819	83	556	26	2
1947	1,893	1,144	31	690	28	(a)
1948	2,128	1,247	166	574	129	12
1949	1,812	1,207	155	362	72	16
1950	2,423	1,437	354	487	122	23
1951	2,581	1,674	245	585	36	41
1952	2,786	1,875	256	609	13	33
1953	3,957	2,504	602	737	48	66
1954	4,034	2,921	443	626	15	29
1955	4,439	3,131	395	828	39	46
1956	4,746	3,358	462	856	21	49
1957	4,703	3,295	451	890	24	43
1958	4,429	3,131	511	708	18	61
1959	5,416	3,908	480	898	20	110
1960	5,306	4,029	309	876	9	83
1961	5,295	3,807	398	970	11	109
1962	6,163	4,236	622	1,164	12	129
1963	6,874	4,625	831	1,308	17	93
1964	7,435	5,105	788	1,414	15	113
1965	8,416	5,509	1,055	1,658	49	145
1966	9,077	5,937	1,047	1,775	61	257
1967	9,380	6,539	899	1,756	55	131
1968	10,083	6,510	1,371	1,994	68	140
1969	11,007	7,586	937	2,300	52	132
1970	10,916	7,952	700	2,000	66	197
1971	11,349	7,850	1,109	2,100	113	176
1972	12,007	8,245	1,319	2,252	—[2]	192
1973	12,698	9,058	1,016	2,485	—[2]	140
1974	13,501	9,807	1,018	2,564	—[2]	112
1975	11,229	7,758	868	2,472	—[2]	131
1976	12,786	8,503	1,151	2,942	—[2]	190
1977	13,794	9,077	1,341	3,210	—[2]	166
1978	14,940	9,608	1,516	3,346r	—[2]	486
1979	15,168	10,046	1,142	3,554	—[2]	426

r — Revised. • — Detail may not add to totals due to rounding.

(a) Less than 0.5 million pounds.

(1) Some imports of "starter" metal, classified by the Bureau of The Census in 1954-1957 as scrap, have here been classified as primary metal, as estimated by BDC.

(2) Domestic secondary data are recoverable metal content for estimated total scrap consumption, as estimated by the Bureau of Mines. Before 1972 total supply included both domestic secondary recovery and an estimated 90 percent recovery from reported scrap imports. Beginning in 1972 the Bureau of Mines required reporting of imported scrap recovery data and these data are included in the domestic secondary recovery figures beginning with that year.

(3) Starting in 1970, includes reimports of metal exported for processing and returned for further processing (TSUSA 806.30).

SOURCE: U.S. Department of Commerce, Bureau of Domestic Business Development, Office of Basic Industries.

Total Supply Adjusted for Stockpile

DESCRIPTION:

The United States Government's aluminum stockpile, following World War II, was formed to provide the nation with a supply of aluminum for mobilization purposes. Since 1963, as a result of an agreement between major domestic aluminum producers, other interested aluminum enterprises and the U.S. Government, a program of orderly disposal of the stockpile ensued. By the end of 1976, the stockpile was essentially depleted. The data in the table below represent the best figures available from different sources. Total supply, unadjusted for stockpile changes is on page 29.

Total Supply Adjusted for Stockpile 1948-1979

Millions of pounds

Year	Total supply adjusted for stockpile	Total supply, all sources	Shipments from stockpile	Shipments to stockpile
1948	2,128	2,128	—	(a)
1949	1,764	1,812	—	48
1950	2,368	2,423	—	55
1951	2,470	2,581	17	128
1952	2,804r	2,786	37	19
1953	3,573	3,957	—	384
1954	2,866	4,034	—	1,168
1955	4,095	4,439	—	344
1956	4,705	4,746	—	41
1957	4,009	4,703	—	694
1958	3,721	4,429	—	708
1959	5,250	5,416	—	166
1960	5,218	5,306	—	88
1961	5,191	5,295	—	104
1962	6,080	6,163	—	83
1963	6,874	6,874	49	49
1964	7,542	7,435	107	—
1965	8,489	8,416	73	—
1966	9,729	9,077	652	—
1967	9,503	9,380	123	—
1968	10,196	10,083	113	—
1969	11,286	11,007	279	—
1970	10,965	10,916	49	—
1971	11,349	11,349	(a)	—
1972	12,019	12,007	12	—
1973	14,159r	12,698r	1,461	—
1974	14,522	13,501	1,021	—
1975	11,234	11,229	5	—
1976	12,804	12,786	18	—
1977	13,794r	13,794r	—	—
1978	14,940	14,940	—	—
1979	15,168	15,168	—	—

r — Revised

(a) Less than 0.5 million pounds

SOURCES: General Services Administration; U.S. Department of Commerce; Industry Sources

Molten aluminum is poured into vertical molds, where it will solidify, to produce extrusion billet. Later this metal will be extruded into pipe, tube, and other shapes.

U. S. Suppliers' Inventories

DESCRIPTION.

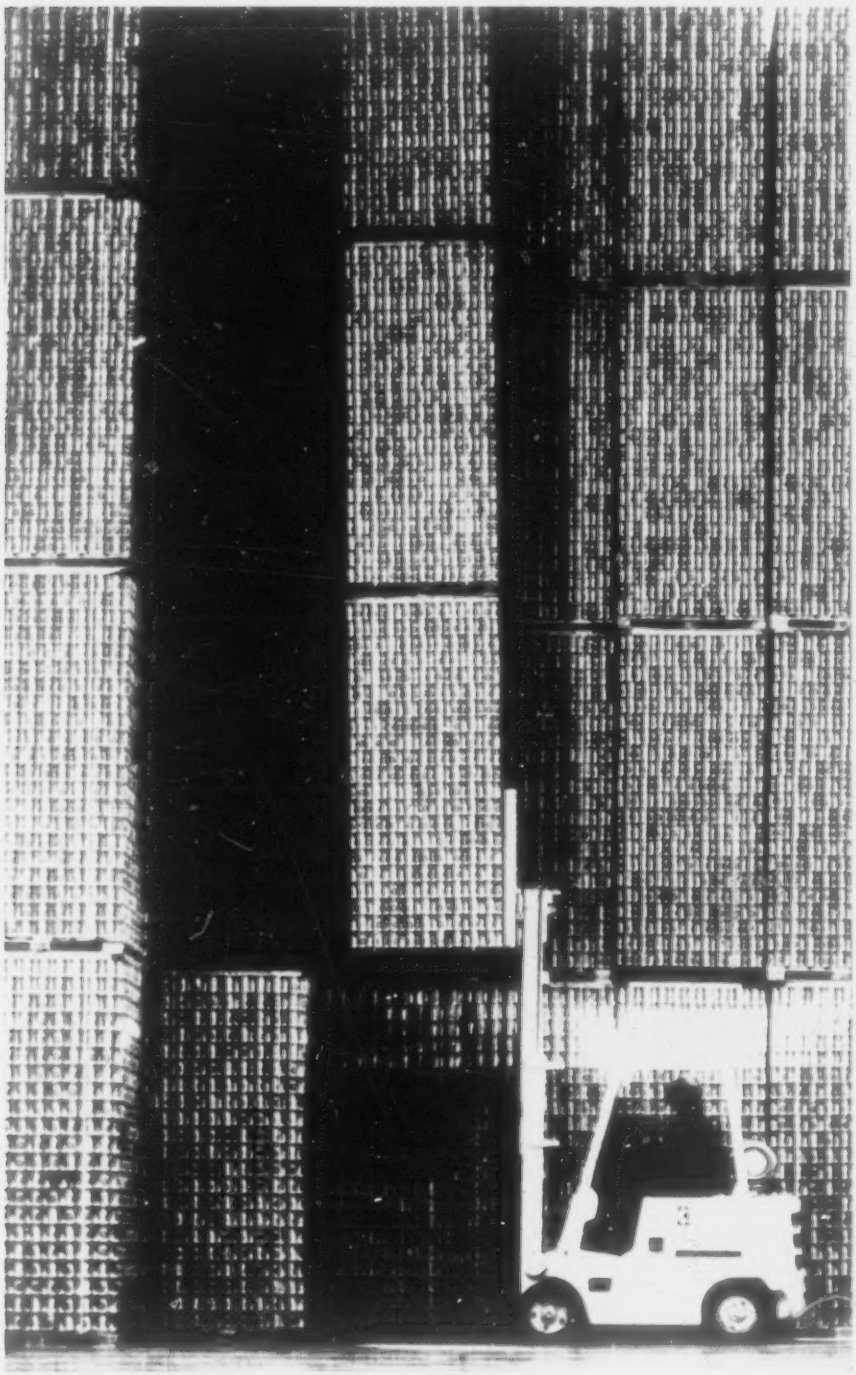
The Bureau of The Census began reporting aluminum inventory in 1968. The figures include all forms of scrap, ingot, metal in process and finished products. During 1979, inventories decreased by 369 million pounds to a year-end inventory of 5,125 million pounds.

U.S. Suppliers' Inventories 1967-1979

Millions of pounds at end of year

Year	Total	Type of Supplier		
		Integrated	Non Integrated	Secondary Smelter
1967	3,651	2,893	518	150
1968	3,725	2,972	625	128
1969	3,785	2,943	697	145
1970	4,387	3,588	621	178
1971	5,026	4,160	688	178
1972	4,861	4,070	621	171
1973	4,366	3,608	607	151
1974	5,156	4,202	753	201
1975	5,999	5,199	598	202
1976	5,701r	4,781r	687	234
1977	5,706r	4,778r	687	241
1978	5,494r	4,460	776	258
1979	5,125	4,124	768	233

Detail may not add to totals due to rounding.
SOURCE: U.S. Department of Commerce, Bureau of The Census Current Industrial Report M33-2.



The aluminum industry shipped 2.4 billion pounds of sheet for use in the manufacture of cans during 1979, up 4 percent from the year before. Shown here are pallets of aluminum beverage cans stacked in storage prior to filling.

Production of Primary Aluminum

DESCRIPTION:

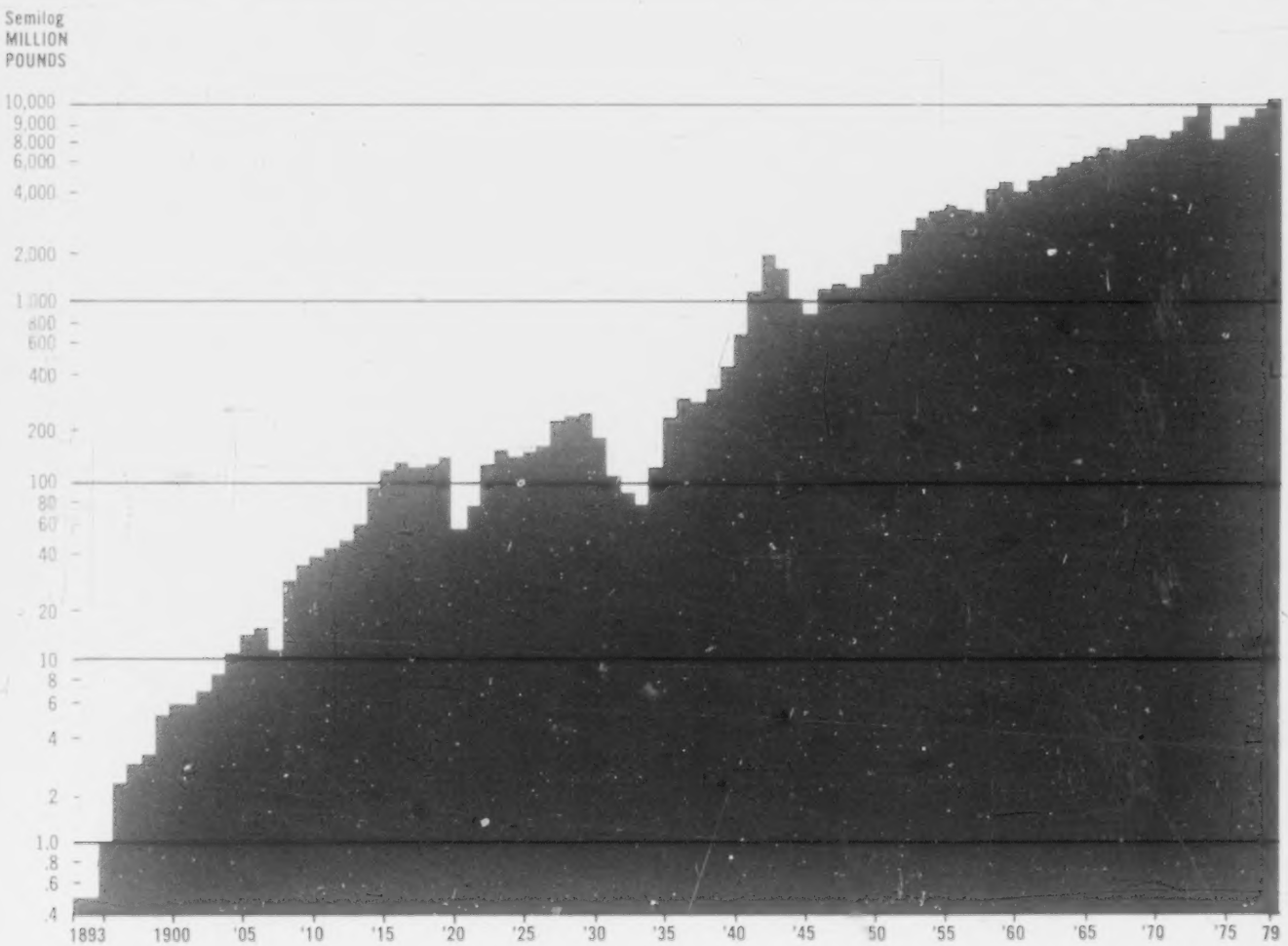
In the United States, primary production of aluminum was begun in 1888 by the Pittsburgh Reduction Company. Data on aluminum production started in 1893, covering the industry from its very early period.

The semi-log graph on this page illustrates the rapid growth in the production of primary aluminum from 1893. The table opposite shows actual aluminum production data used for the graph.

HIGHLIGHTS

Primary aluminum production totaled 10,046 million pounds in 1979 vs. the production of 9,608 million pounds in 1978. The average annual growth rate since 1893 has been 13.4 percent. In the decade 1969-1979 the growth rate showed an average annual rate of 2.8 percent.

Production of Primary Aluminum
1893-1979



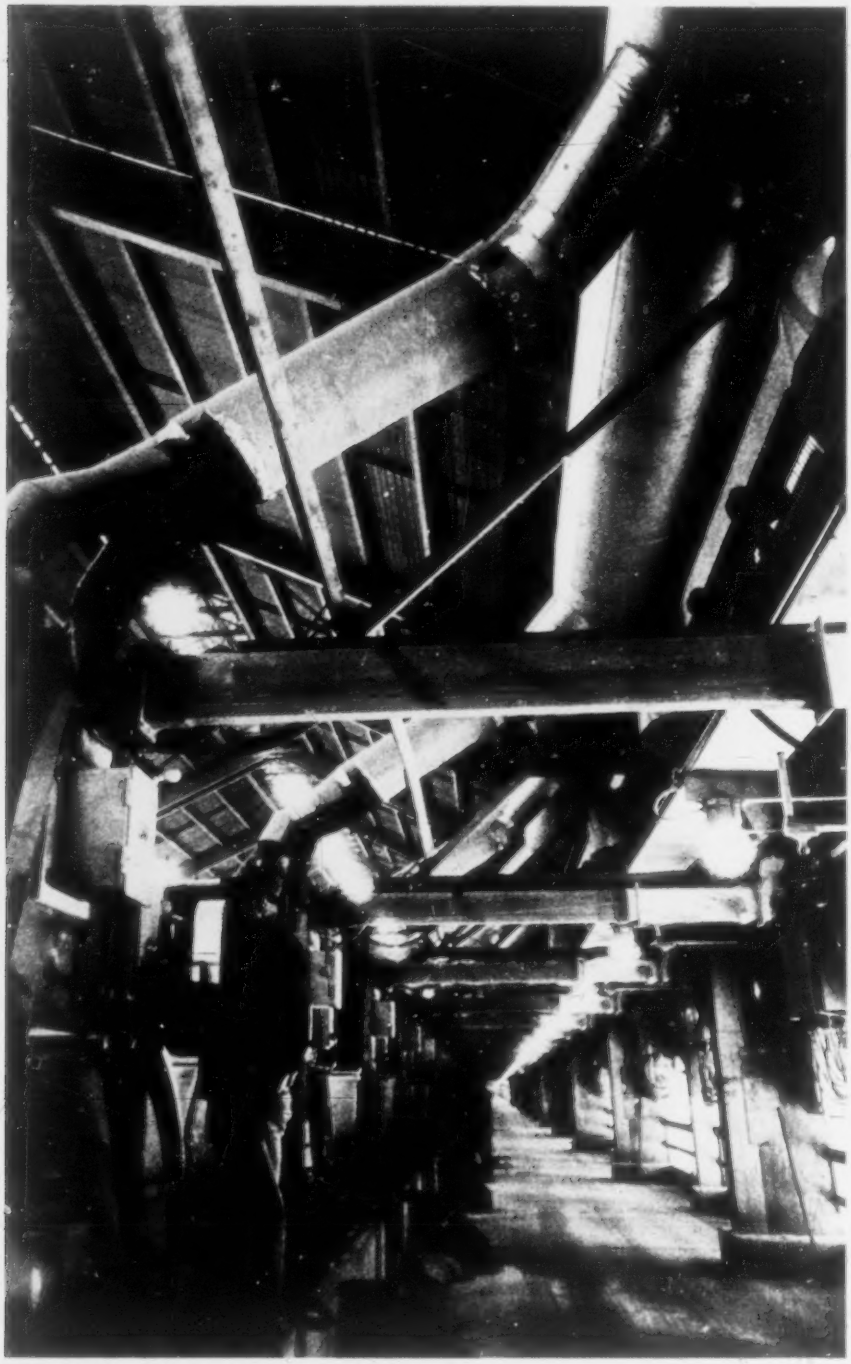
SOURCE: The Aluminum Association, Inc.

Production of Primary Aluminum in U.S.A.

Year	Millions of pounds	Year	Millions of pounds
1893	0.2	1936	224.9
1894	0.5	1937	292.7
1895	0.5	1938	286.9
		1939	327.1
		1940	412.6
1896	1.0		
1897	2.4		
1898	3.0	1941	618.1
1899	3.3	1942	1,042.2
1900	5.1	1943	1,840.4
		1944	1,552.9
		1945	990.1
1901	5.8		
1902	5.8		
1903	6.6	1946	819.3
1904	8.1	1947	1,143.5
1905	10.8	1948	1,246.9
		1949	1,206.9
		1950	1,437.2
1906[1]	14.1		
1907	16.3		
1908	10.7	1951	1,673.8
1909	29.1	1952	1,874.7
1910	35.4	1953	2,504.0
		1954	2,921.1
		1955	3,131.4
1911	38.4		
1912	41.8		
1913	47.3	1956	3,357.9
1914	58.0	1957	3,295.4
1915	90.5	1958	3,131.1
		1959	3,908.2
		1960	4,029.0
1916	115.1		
1917	129.9		
1918	124.7	1961	3,807.4
1919	128.5	1962	4,235.9
1920	138.0	1963	4,625.1
		1964	5,105.5
		1965	5,509.0
1921	54.5		
1922	73.6		
1923	128.5		
1924	150.6	1966	5,936.7
1925	140.1	1967	6,538.5
		1968	6,510.1
		1969	7,586.1
1926	147.4	1970	7,952.3
1927	163.6		
1928	210.5		
1929	228.0	1971	7,850.4
1930	229.0	1972	8,244.8
		1973	9,058.2
		1974	9,806.9
1931	177.5	1975	7,758.3
1932	104.9		
1933	85.1	1976	8,502.8
1934	74.2	1977	9,077.4
1935	119.3	1978	9,607.6
		1979	10,046.2

(1) Data prior to 1907 represent years ending August 31. Production during last four months of 1906 totaled 5.4 million pounds.

SOURCES: U.S. Department of the Interior, Bureau of Mines and the Aluminum Association, Inc.



Primary aluminum production for 1979 went over the 10-billion-pound mark, an increase of 4.6 percent over the prior year. This reduction plant worker checks one of many electrolytic cells or "pots" in which alumina is converted to aluminum.

Primary Aluminum Capacity

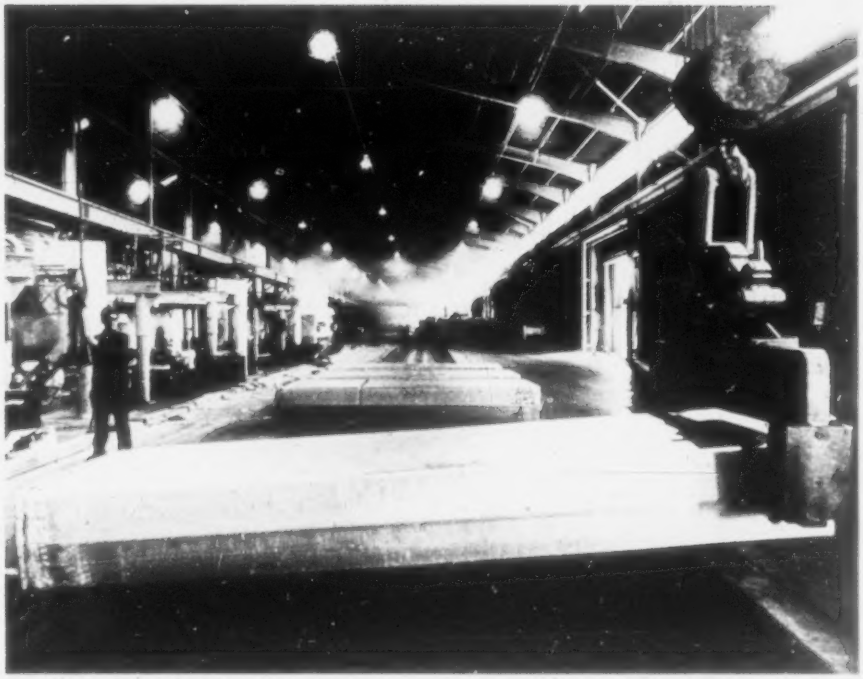
DESCRIPTION:

There were twelve domestic primary producing companies as of December 31, 1979. They are Aluminum Company of America, Alumax, Inc. (50% interest in Intalco and Eastalco), Anaconda Aluminum Company, Consolidated Aluminum Corporation (including 66% interest in Ormet), Howmet Aluminum Corporation (50% interest in Eastalco and Intalco), Kaiser Aluminum & Chemical Corporation, Martin Marietta Aluminum Incorporated, National Aluminum Company (50% interest in National-Southwire), Noranda Aluminum Incorporated, Revere Copper and Brass Incorporated (including 34% interest in Ormet), Reynolds Metals Company and Southwire Company (50% interest in National-Southwire).

HIGHLIGHTS:

Total annual primary aluminum capacity as of December 31, 1979 was 5,281,600 tons, up 57,210 tons from the previous year.

The percentage distribution of U.S. primary capacity by company at year-end 1979 was: Alcoa 32.2; Reynolds 18.5; Kaiser 13.7; Consolidated 6.7; Anaconda 6.8; Alumax 4.1; Howmet 4.1; Martin Marietta Aluminum 4.0; Revere 3.8; Noranda 2.7; National Aluminum 1.7; and Southwire 1.7.



Aluminum ingots are produced in various shapes and sizes. This type, designed for use in rolling aluminum sheet and plate, can weigh as much as 30,000 pounds.

Primary Aluminum Capacity 1948-1979

Year	Total	Alcoa	Reynolds
1948	641,500	325,000	188,000
1949	654,000	294,000	227,000
1950	751,250	369,750	238,500
1951	800,750	371,250	259,500
1952	1,155,700	484,250	353,250
1953	1,335,700	548,000	359,500
1954	1,413,200	570,500	414,500
1955	1,634,700	706,500	440,000
1956	1,775,500	792,500	488,500
1957	1,839,000	792,500	488,500
1958	2,194,250	798,250	601,000
1959	2,402,750	798,250	701,000
1960	2,468,750	853,250	701,000
1961	2,483,750	853,250	701,000
1962	2,488,750	853,250	701,000
1963	2,510,750	853,250	701,000
1964	2,599,100	858,100	725,000
1965	2,758,284	950,000	725,000
1966	3,165,284	1,050,000	815,000
1967	3,321,000	1,150,000	815,000
1968	3,686,000	1,200,000	895,000
1969	3,884,300	1,325,000	935,000
1970	4,215,000	1,325,000	945,000
1971	4,666,000	1,475,000	975,000
1972	4,771,000	1,570,000	975,000
1973	4,893,000	1,570,000	975,000
1974	4,916,000	1,575,000	975,000
1975	5,021,500	1,575,000	975,000
1976	5,192,900	1,675,000	975,000
1977	5,193,400	1,675,000	975,000
1978	5,224,390	1,700,000	975,000
1979	5,281,600	1,700,000	975,000

Short Tons

Kaiser	Consolidated[2]	Anaconda	Alumax	Howmet	Martin Marietta	Revere	Noranda	National-Aluminum	Southwire	Olin[2]
128,500	—	—	—	—	—	—	—	—	—	—
133,000	—	—	—	—	—	—	—	—	—	—
143,000	—	—	—	—	—	—	—	—	—	—
170,000	—	—	—	—	—	—	—	—	—	—
318,200	—	—	—	—	—	—	—	—	—	—
428,200	—	—	—	—	—	—	—	—	—	—
428,200	—	—	—	—	—	—	—	—	—	—
428,200	—	60,000	—	—	—	—	—	—	—	—
434,500	—	60,000	—	—	—	—	—	—	—	—
498,000	—	60,000	—	—	—	—	—	—	—	—
537,000	—	60,000	—	—	54,000	49,000	—	—	—	95,000
609,500	—	60,000	—	—	54,000	61,200	—	—	—	118,800
609,500	—	65,000	—	—	60,000	61,200	—	—	—	118,800
609,500	—	65,000	—	—	75,000	61,200	—	—	—	118,800
609,500	—	65,000	—	—	80,000	61,200	—	—	—	118,800
609,500	20,000	67,000	—	—	80,000	61,200	—	—	—	118,800
650,000	32,000	67,000	—	—	87,000	61,200	—	—	—	118,800
650,000	62,000	100,000	—	—	87,000	62,657	—	—	—	121,627
670,000	106,000	100,000	76,000	76,000	88,000	62,657	—	—	—	121,627
670,000	106,000	100,000	76,000	76,000	88,000	81,600	—	—	—	158,400
690,000	140,000	175,000	127,500	127,500	91,000	81,600	—	—	—	158,400
710,000	140,000	175,000	130,500	130,500	91,000	81,600	—	3,650	3,650	158,400
710,000	140,000	180,000	130,500	217,500	91,000	137,600	—	90,000	90,000	158,400
710,000	175,000	180,000	130,500	217,500	201,000	193,600	70,000	90,000	90,000	158,400
710,000	175,000	180,000	130,500	217,500	201,000	197,000	70,000	90,000	90,000	165,000
710,000	177,000	300,000	130,500	217,500	201,000	197,000	70,000	90,000	90,000	165,000
724,000	342,000	300,000	130,500	217,500	205,000	197,000	70,000	90,000	90,000	—
724,000	352,000	300,000	219,000	217,500	210,000	199,000	70,000	90,000	90,000	—
724,000	352,000	300,000	218,700	218,700	210,000	199,500	140,000	90,000	90,000	—
724,000	352,000	300,000	218,700	218,700	210,000	200,000	140,000	90,000	90,000	—
724,000	352,000	300,000	218,700	218,700	210,000	203,200	140,000	90,000	90,000	—
724,000	352,000	360,000	218,700	218,700	210,000	203,200	140,000	90,000	90,000	—

(1) Capacities shown are as reported for December 31. They include nominal ownership of plants owned by more than one company.
(2) Consolidated acquired the aluminum business of Olin Corporation in 1974.

SOURCE: The Aluminum Association, Inc.

Number of Plants in the U. S.

Number of Plants in the U.S.

SELECTED YEARS

PRODUCT	1977*	1967	World War II
Primary Ingot	32	24	14
Secondary Ingot	89	89	46
Sheet and Plate	49	57	13
Foil	27	26	8
Rod & Bar, Rolled and Continuous Cast	31	21	4
Wire, Bare, Conductor & Nonconductor	125	67	10
ACSR and Aluminum Cable, Bare	59	36	na
Wire & Cable, Insulated or Covered	90	61	12
Extruded Products	222	177	17
Drawn Tube	22	24	16
Welded Tube	32	21	na
Powder	18	19	12
Forgings	74	52	59
Impacts	29	na	na

na — Not available

SOURCE: U.S. Department of Commerce, Industrial Economics Bureau and various directories of the War Production Board and the National Production Authority, prepared for government use and not to be considered official or complete.

** latest published information*

DESCRIPTION:

The data presented here are based primarily on unofficial directories currently prepared by the U.S. Department of Commerce, Bureau of Industrial Economics.

The figures shown for each product for selected years represent number of plants—not companies, which in many instances operate more than one plant. No totals are shown since some plants produce more than one product. Data include captive plants (plants producing only for company's own use).

Five outline maps of the United States indicating the geographic distribution of aluminum plants by various product groups are presented on pages 37 to 39.

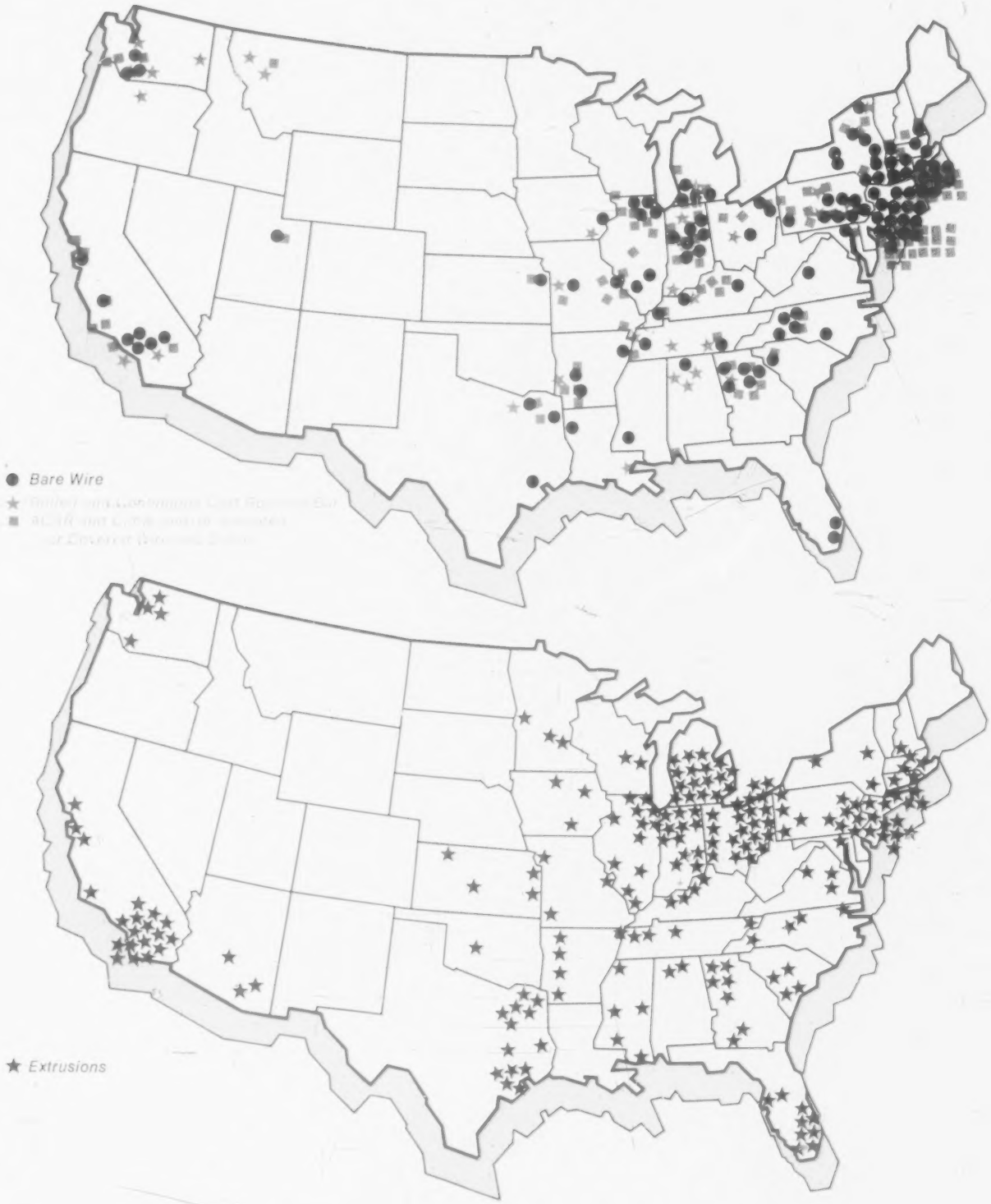
HIGHLIGHTS:

Almost all plants producing the various aluminum products have shown substantial increases in number since World War II. Since 1967 the greatest percentage increases have occurred in bare wire, rod and bar, ACSR and bare cable, insulated or covered wire and cable, and welded tube. In a number of cases the addition of plant locations reflects better information on existing plants, previously unknown, rather than the construction of new plants.

Primary

Foil

U. S. Plants — cont.



■ Forgings and/or Impacts

Aluminum Scrap Consumption and Recovery

The recycling of aluminum scrap increased significantly in 1979. The U.S. Bureau of Mines estimates that 1,777 thousand short tons of aluminum were recovered from recycling scrap during the year, up 6.2 percent from 1978, and more than 75 percent higher than 1970's total.

DESCRIPTION:

Recovery of aluminum from scrap, an important source of supply, is shown on pages 40 and 41. Two sets of scrap data are tabulated. The scrap consumption figures are on a gross weight basis as reported by plants consuming scrap. The aluminum recovery figures are on a recovered metal basis, that is the content of aluminum base alloy recovered from gross weight consumed. The figures in this table are consistent with domestic secondary recovery on page 41.

The aluminum recovery data are shown by source, that is by new and old scrap. New scrap, generated by plants making end products, and old scrap recovered from metal that has been used by consumers, are returned to plants making ingot and mill products and thus add to the total metal supply.

Through 1954, data on scrap consumption and recovery are based on complete reporting. Beginning in 1955, reported figures are expanded to industry totals by the Bureau of Mines to allow for a number of firms who do not report. In 1961, sweated pig consumption data were improved and included in old scrap.

Recovery of new scrap and old scrap over the past ten years has been about 23 percent of domestic ingot supply (23.4 percent in 1979). However, this figure does not include "run-around" scrap consumed by the generating companies.

HIGHLIGHTS:

Total domestic industry scrap consumption on a gross weight basis, increased 5.7 percent in 1979 to 2,020,000 tons from the 1978 volume of 1,911,000 tons. Total recovery from scrap in 1979 on a recovered metal basis was 1,777,000 tons. In 1979, new scrap accounted for 65 percent of total recovery, and old scrap for 35 percent, according to Bureau of Mines' data. The 614,000 tons of aluminum metal recovered from old scrap, up 6.8 percent from 1978, recorded a new high in recovery from old scrap as a metal source. Reclamation from aluminum cans in 1979 was almost 180,000 tons, up about 6 percent from the 170,000 tons of aluminum cans reclaimed in 1978.

Aluminum Can Reclamation Data 1972–1979

	Pounds of Aluminum Reclaimed	No. of Aluminum Cans Reclaimed
1972	53 Million(1)	1.2 Billion
1973	68 Million(1)	1.6 Billion
1974	103 Million(1)	2.3 Billion
1975	180 Million(2)	4.0 Billion
1976	212 Million(2)*	4.8 Billion
1977	280 Million(2)*	6.4 Billion
1978	340 Million(2)*	7.8 Billion
1979	360 Million(2)*	8.3 Billion

** Represents incomplete industry covereage.*

(1) Represents total industry; includes an additional 1, 5 and 18 million pounds in the years 1972, 1973 and 1974 respectively which accounts for all-aluminum cans collected by non-members of the Aluminum Association.

(2) SOURCE: U.S. Department of the Interior, Bureau of Mines.

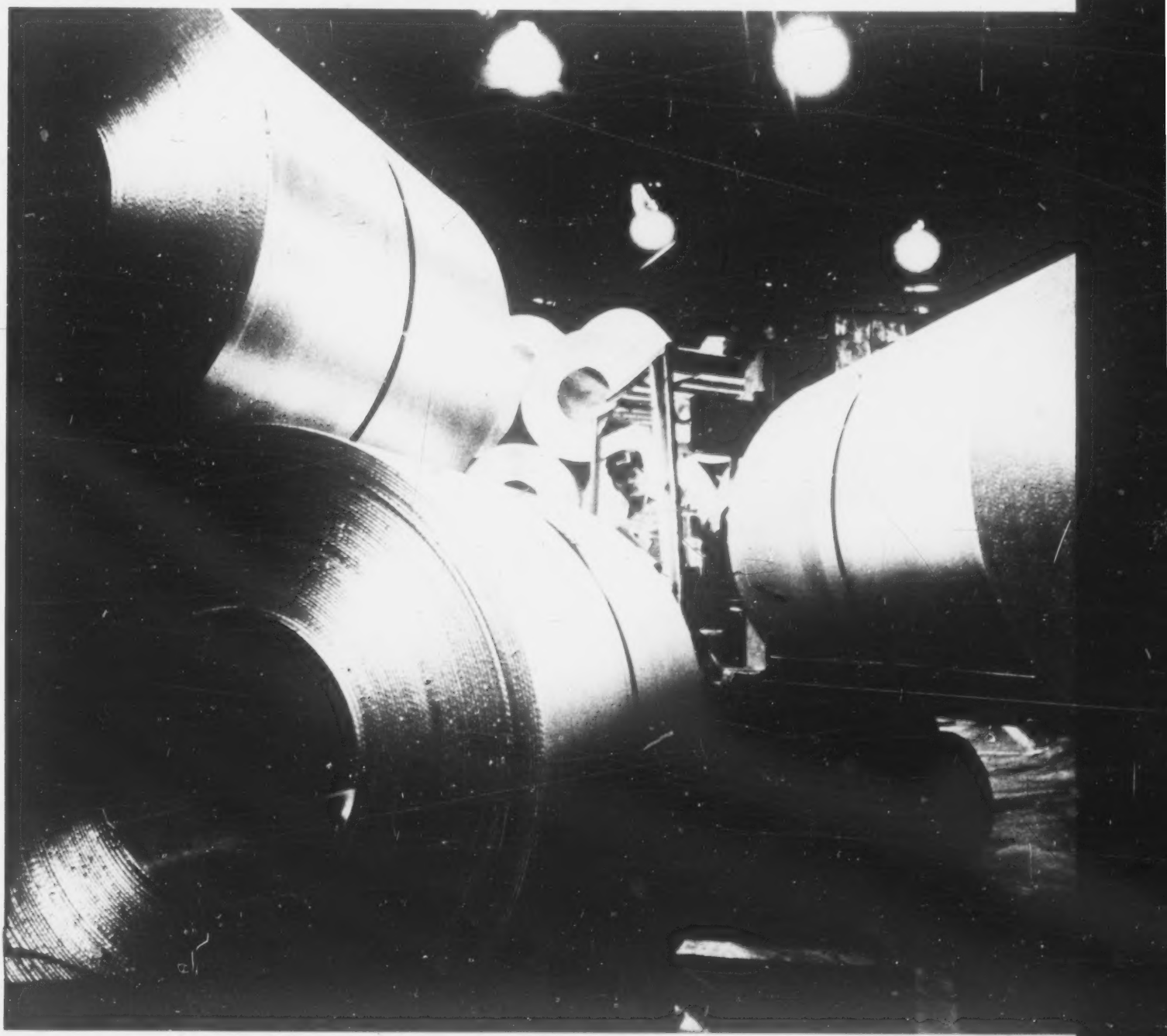
Aluminum Scrap Consumption and Recovery
1946-1979

Short Tons

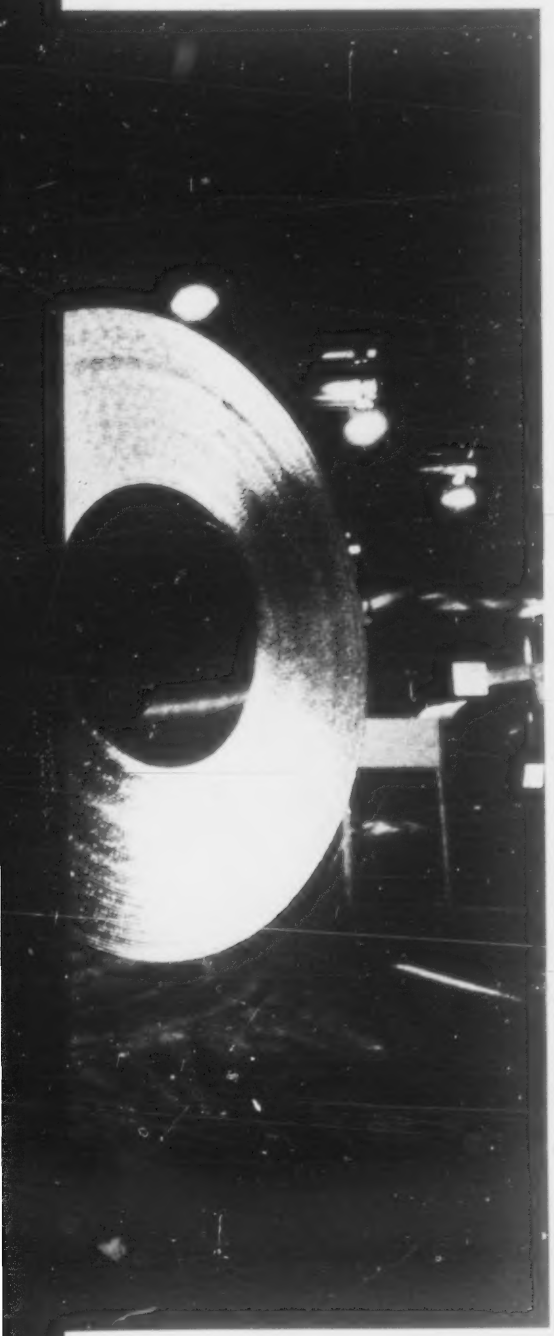
Year	SCRAP CONSUMPTION: Total Industry[1]	SCRAP CONSUMPTION (Gross Weight Basis) As Reported: Total	Secondary Smelters	Primary Producers[2][3]	Others[4]	RECOVERY[5] (Recovered Metal Basis): Total Industry[1]	From New Scrap	From Old Scrap
1946	344,000	344,000	238,000	100,000	6,000	278,073	187,538	90,535
1947	411,070	411,070	312,087	90,009	8,974	344,837	180,990	163,847
1948	324,495	324,495	217,666	100,454	6,375	286,777	191,129	95,648
1949	199,039	199,039	128,472	65,602	4,965	180,762	136,166	44,596
1950	273,192	273,192	192,047	68,316	12,829	243,666	167,308	76,358
1951	332,296	332,296	232,339	80,463	19,494	292,608	216,017	76,591
1952	347,730	347,730	255,083	77,939	14,708	304,522	233,258	71,264
1953	413,333	413,333	276,279	116,011	21,043	368,566	289,626	78,940
1954	350,515	350,515	239,069	91,446	20,000	313,047	246,609	66,438
1955	490,000	427,045	313,879	86,739	26,427	414,000	314,500	99,500
1956	517,000	439,343	331,811	88,754	18,778	428,000	331,000	97,000
1957	532,000	463,000	345,000	94,000	24,000	445,000	347,500	97,500
1958	430,000	375,564	275,762	77,282	22,520	354,000	274,500	79,500
1959	539,000	475,964	384,506	62,917	28,541	449,000	345,000	104,000
1960	523,000	441,479	353,889	54,366	33,224	438,000	343,000	95,000
1961	579,000	498,116	331,705	44,572	121,839	485,000	329,500	155,500
1962	700,000	594,873	442,168	36,520	116,185	582,000	415,500	166,500
1963	780,000	647,489	493,168	44,885	109,436	654,000	495,000	159,000
1964	850,000	712,251	538,992	58,928	114,331	707,000	545,000	162,000
1965	970,000	816,620	579,844	94,985	141,791	829,000	624,000	205,000
1966	1,080,000	896,334	638,757	125,487	132,090	887,500	700,250	187,250
1967	1,060,000	882,795	617,145	122,987	142,663	878,000	703,500	174,500
1968	1,218,000	1,015,070	699,289	152,176	163,605	997,000	816,000	181,000
1969	1,331,000	1,109,097	742,118	196,857	170,122	1,150,000	950,000	200,000
1970	1,167,000	972,533	650,327	153,247	168,959	1,000,000	803,000	197,000
1971	1,210,000	1,004,778	639,909	170,755	194,114	1,050,000	834,000	216,000
1972	1,342,000	1,152,433	706,484	205,231	240,718	1,126,000	876,000	250,000
1973	1,481,000	1,262,439	736,819	212,545	313,075	1,242,000	977,000	265,000
1974	1,448,000	1,206,061	630,223	238,958	336,880	1,282,000	978,000	304,000
1975	1,454,000	1,232,155	611,540	342,810	277,805	1,236,000	899,000	337,000
1976	1,7[illegible]1,000	1,465,462	758,992	365,190	341,280	1,471,000	1,062,000	409,000
1977	1,8[illegible]4,000	1,568,215	841,258	425,733	301,224	1,605,000	1,074,000	531,000
1978	1,911,000	1,616,514r	882,697	437,360	296,457	1,673,000r	1,098,000r	575,000r
1979	2,020,000	1,705,031	922,159	442,262	340,610	1,777,000	1,163,000	614,000

r — revised
p — preliminary
(1) As reported, 1946-54; estimates expanded from reported figures, 1955-79
(2) For 1951-53 includes small amounts reported consumed by non-integrated fabricators
(3) Represents 100 per cent scrap consumption coverage by primary producers
(4) Most consumption of sweated pig apparently not reported by "others" prior to 1961
(5) Recovery from sweated pig included in new scrap 1946-60, old scrap 1961-79
SOURCE: U.S. Department of the Interior, Bureau of Mines and U.S. Department of Commerce, Bureau of Industrial Economics.

U. S. Aluminum Foreign Trade Statistics



Over 1 billion pounds of aluminum were exported during 1979, up 36.9 percent over the 1978 figure. Foil, shown here in giant rolls, was one of the products that increased its export total during the year.



For the year 1979, imports of aluminum ingot and mill products accounted for 10.4 percent of total aluminum supply in the United States. Exports, likewise composed 6.9 percent of total industry shipments. These facts illustrate the major role of foreign trade in the U.S. aluminum industry.

While imports of aluminum semifabricated products declined moderately from 1978's record levels, imports of aluminum ingot fell more sharply. Semifabricated products were down 12 percent to 426 million pounds. Ingot imports fell 24.7 percent to 1,142,million pounds.

Exports of aluminum ingot and semifabricated products rose in 1979 from 1978 totals. For ingot exports, this was a continuation of a rise which began a year earlier. The year total for 1979 was 401 million pounds, up 58 percent from the year before, and more than doubled from the 1977 total. Semifabricated products showed a more modest gain of 26 percent from 1978, with a 1979 total of 622 million pounds.

Exports of aluminum scrap showed another large rise during 1979. After nearly doubling in 1978, a 58 percent growth was shown for 1979 as well. Some 614 million pounds of aluminum scrap were exported during 1979, over half destined for Japan.

The product composition of United States imports and exports for the years 1950-1979 is graphically presented on pages 44 and 45. The data for total imports and exports as well as the detail of semifabricated aluminum product imports and exports for 1979 and the preceding 10 years are tabulated on pages 46 and 47. The total imports include dross and skimmings and the gross weight of scrap. In the table on United States Supply (page 29) dross and skimmings are excluded, and the recovered weight of imported scrap is used. It is counted as part of domestic secondary recovery for the years 1972-1979 and shown as a separate supply component for years prior to 1972.

The detail of 1979 aluminum imports by product and country of origin is presented on pages 48 and 49. Similarly, the exports on a product basis by country of destination are detailed on pages 50 and 51.

U. S. Imports

DESCRIPTION:
The graph below illustrates the trend of U.S. aluminum imports in the years 1950-79. In addition to showing the imports of ingot, scrap and dross, and skimmings, the upper half of the table on pages 46 and 47 shows in detail the categories of imports of semifabricated products for the years 1969-1979. Imports of aluminum by country for the year 1979 are shown on pages 48 and 49.

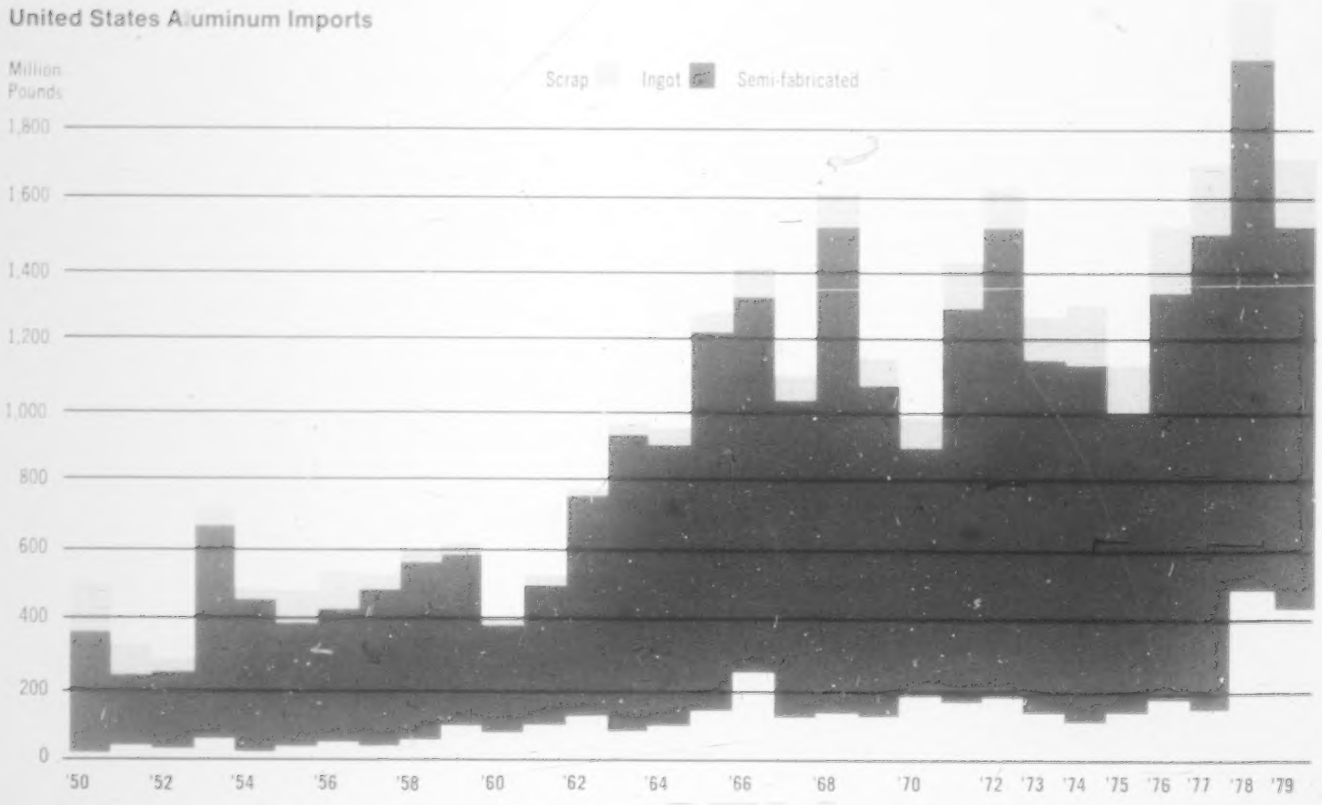
Backed foil imports and exports have been removed from the foreign trade statistics beginning in 1979. Data for prior years have been revised to agree with the new definition.

The import data for 1979 include reimports of metal exported for processing and returned for further processing under the TSUSA 806.30 tariff rule. While 1979 data are comparable with the years 1970-1978, they are not strictly comparable to years prior to 1970 because of the nonavailability of these statistics for those years. Data on reimports are shown on pages 48 and 49.

HIGHLIGHTS:
Total aluminum imports totaled 1,715 million pounds during 1979, down 12 percent from the previous year's very high levels. Indeed, previous to 1978's record level, only the 1972 imports even come close to matching the 1979 figure. Unwrought aluminum imports declined 24.7 percent to 1,142 million pounds. Semifabricated aluminum products fell a more moderate 12 percent to 426 million pounds. However, within the semifabricated products total the story was mixed. Sheet imports, the largest single component of the total, fell 18 percent, but some products such as powder actually showed gains over the previous year. Scrap imports declined 26 percent between the years to 137 million pounds, while the dross and skimmings total was little changed at 10 million pounds.

In 1979 the largest sources of U.S. imports of aluminum were Canada (899 million pounds), Norway (113 million pounds), and Ghana (220 million pounds). Each of these supplied mostly ingot to the U.S. Other major sources were Japan, Belgium, the United Kingdom, France, the Federal Republic of Germany, and Italy. In each of these cases mill products were the main imported items.

United States Aluminum Imports



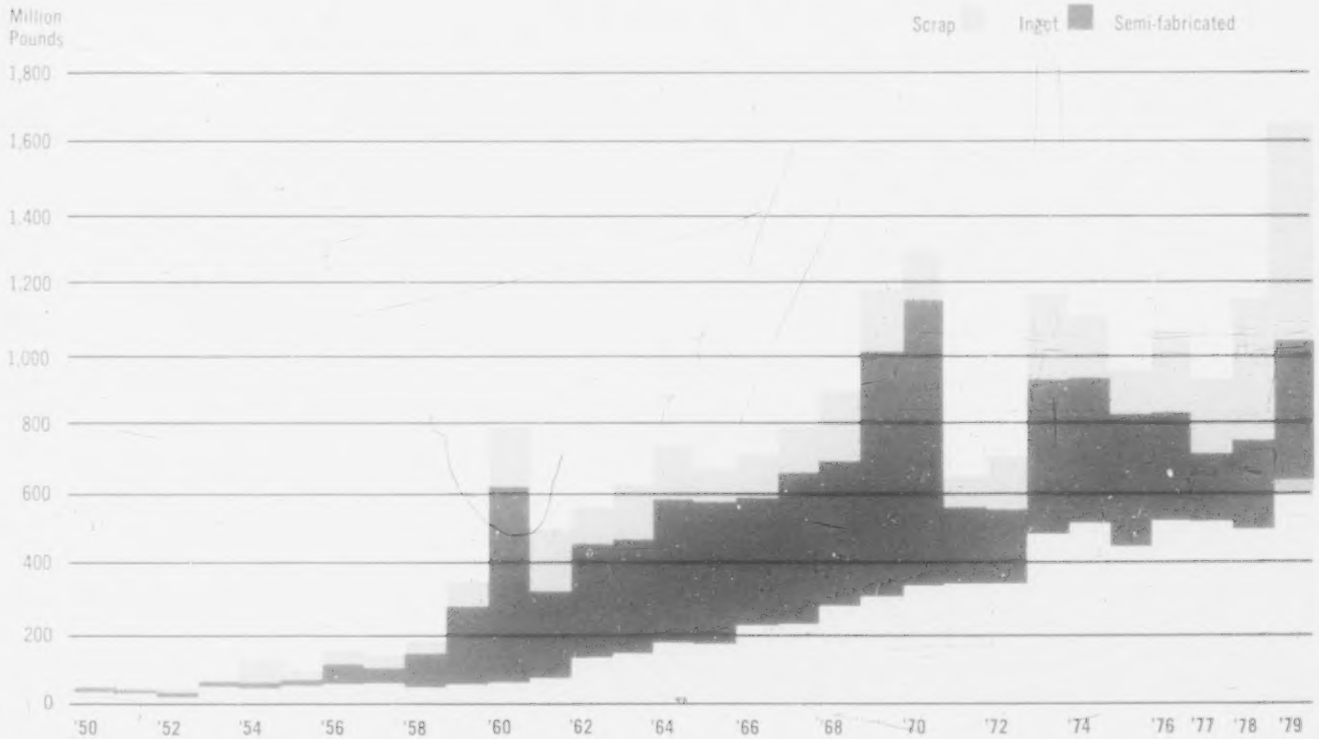
Note: Includes reimports since 1970. SOURCE: The Aluminum Association, Inc.

U. S. Exports

DESCRIPTION:
The graph below illustrates the trend of U.S. aluminum exports in the years 1950-1979. In addition to showing the exports of ingot and scrap, the lower portion of the table on pages 46 and 47 shows the detail of exports of semifabricated products for the years 1969-1979. Exports of aluminum by country for 1979 are shown on pages 50 and 51.

HIGHLIGHTS:
Total aluminum exports during 1979 were 1,637 million pounds, a healthy 41 percent increase over 1978. Indeed, 1978's level was up a quarter over the year before. Scrap exports lead the way with a 58 percent jump to 614 million pounds, over half of which went to Japan. Brazil, Canada, and Mexico, also bought large amounts of scrap from the U.S. Ingot exports also rose in 1979 to a total of 401 million pounds. Again, a large portion was shipped to Japan, Mexico and Canada. The semi-fabricated products total was up 26 percent in 1979, although individual product groups fared better or worse than the average. Sheet exports rose 42 percent to 258 million pounds as plate went up 17 percent to 24 million pounds. Powder and flakes, electrical conduit, and other pipe and tube exports fell during the year. By far, the largest recipient of semi-fabricated products from the United States during 1979 was Canada, with 270 million pounds, or 43 percent of the total exported. Other recipients of large quantities of semifabricated products were Mexico (63 million pounds), the United Kingdom (49 million pounds), and Brazil (21 million pounds).

United States Aluminum Exports



United States Imports and Exports

United States Imports and Exports 1969-1979

Thousands of pounds

PRODUCT	1979	1978	1977	1976	1975
Total Imports	1,714,794	2,194,902r	1,688,604r	1,524,971r	1,120,267r
TOTAL INGOT & SEMIFABRICATED	1,567,857	2,000,058r	1,505,431r	1,339,742r	998,468r
INGOT	1,141,517	1,515,576	1,340,658	1,150,741	868,281
SEMIFABRICATED, TOTAL	426,339	484,482r	164,773r	189,001r	130,187r
Sheet & plate, Total	357,285	433,684	128,675	150,543	107,087
Circles & disks	21,529	20,473	15,363	16,949	10,492
Other	355,756	413,211	113,312	133,594	96,595
Foil, Total	17,925	21,451r	9,763r	10,993r	4,465r
Over .00035"	6,020	7,489	3,679	3,593	2,301
Not over .00035"	10,036	12,626	5,141	5,253	1,551
Capacitor	1,870	1,336	943	1,147	615
Rod & bar	37,959	22,133	18,146	20,907	12,718
Wire	6,902	3,840	3,526	4,072	2,590
Cable	146	77	438	507	917
Angles, shapes, etc.	1,664	1,793	2,082	490	932
Pipe & tube	1,098	868	731	919	842
Powder	3,361	637	1,415	570	637
SCRAP	136,632	184,305	179,789	171,427	109,613
DROSS & SKIMMINGS	10,305	10,539	3,384	13,802	12,186
Total Exports	1,637,086	1,136,424r	915,508r	1,038,439r	938,770r
TOTAL INGOT & SEMIFABRICATED	1,022,924	747,409r	712,182r	820,522r	804,968r
INGOT	401,300	253,234	195,542	304,732	371,770
SEMIFABRICATED, TOTAL	621,625	494,174r	516,640r	515,790r	433,268r
Sheet & plate	404,509	291,764	344,309	343,014	276,321
Foil	20,566	11,902r	13,062r	14,252r	10,375r
Rod & bar	61,510	59,672	27,433	54,913	51,577
Wire, bare	30,129	23,906	15,240	18,364	21,481
Other conductor	30,600	56,121	58,137	27,630	27,350
Angles, shapes, etc.	22,402	17,110	8,494	9,761	14,120
Pipe & tube, Total	16,178	19,115	21,370	19,755	15,107
Electric conduit	1,901	3,493	7,230	4,577	3,266
Other	14,277	15,622	14,140	15,178	11,841
Powder	14,356	14,584	14,804	16,879	6,920
Castings	17,840	na	8,146	7,759	5,774
Forgings	3,526	na	5,643	3,463	4,243
SCRAP	614,162	389,015	203,326	217,917	133,802

Detail may not add to totals due to rounding.

1974	1973	1972	1971	1970	1969
1,287,966r	1,256,267r	1,619,403r	1,413,910r	976,353r	1,142,233r
1,127,430r	1,154,272r	1,507,745r	1,282,158r	894,110r	1,065,924r
1,017,722	1,016,068	1,318,784	1,109,365	700,335	937,339
109,708r	138,204r	188,961r	172,793r	193,776r	128,584r
69,690	99,460	138,467	126,694	136,298	88,902
11,634	15,503	19,815	16,081	18,568	14,028
58,056	83,957	118,652	110,613	117,730	74,875
13,637r	18,366r	24,531r	25,823r	28,125r	3,848r
8,931	9,351	13,235	12,482	13,994	2,407
3,358	8,115	10,642	12,649	13,813	1,106
1,348	900	654	692	326	335
18,813	13,240	16,774	12,755	18,216	23,068
3,355	2,548	3,566	2,785	4,153	3,839
1,519	676	833	765	1,850	927
647	569	577	897	545	200
1,193	2,909	3,763	2,740	4,253	6,254
854	436	451	333	328	1,546
149,486	93,616	104,601	125,680	73,559	57,700
11,050	8,379	7,057	6,072	8,684	18,610
1,087,467r	1,155,316r	684,190r	618,979r	1,266,387r	1,172,016r
927,150r	925,157r	552,111r	557,629r	1,152,070r	999,505r
415,668	459,156	216,637	224,592	816,904	688,826
511,482r	466,001r	335,473r	333,037r	335,166r	310,679r
366,910	327,871	242,695	249,778	231,115	231,563
16,865r	8,109r	4,906r	4,238r	4,001r	2,914r
46,617	59,855	38,937	24,715	33,054	31,506
16,008	14,179	10,352	6,190	16,518	8,436
8,541	4,209	-10,107	20,937	19,699	11,449
18,533	17,019	8,344	7,773	11,183	8,344
17,410	12,297	6,686	8,901	6,563	5,148
2,245	2,346	1,398	1,623	1,325	1,610
15,165	9,951	5,288	7,278	5,237	3,538
8,733	11,908	4,514	3,482	6,155	2,598
7,513	5,656	4,442	3,598	3,293	3,853
4,352	4,899	4,492	3,525	3,585	4,868
160,317	230,159	132,079	61,351	114,317	172,511

SOURCE: U.S. Department of Commerce, Bureau of Industrial Economics

United States Imports by Product and Country

United States Imports by Product and Country, 1979

Thousands of Pounds

	Total	Ingot	Scrap, Dross, and Skimmings	Semi-fabricated Products	Circles and Discs	Sheet
TOTAL, ALL COUNTRIES	1,714,794	1,141,517	146,937	426,339	21,529	323,068
NORTH AMERICA	906,489	745,558	123,435	37,495	570	28,874
Canada	898,828	745,049	118,179	35,599	39	28,160
Mexico	5,449	509	3,044	1,896	531	714
Other	2,212	—	2,212	—	—	—
SOUTH AMERICA	84,879	52,847	2,166	29,865	315	2,883
Venezuela	52,149	25,846	2,105	24,198	*	2
Surinam	27,145	27,002	—	143	—	—
Chile	61	—	61	—	—	—
Brazil	2,578	—	—	2,578	175	130
Argentina	2,947	—	—	2,947	140	2,751
EUROPE, TOTAL	384,583	122,680	20,961	240,942	12,993	186,495
EUROPEAN ECONOMIC COMMUNITY	182,116	26,163	896	155,057	6,481	119,613
Denmark	1	—	—	1	—	—
United Kingdom	31,457	15,272	53	16,132	608	12,570
Republic of Ireland	6	—	—	6	—	—
Netherlands	7,610	100	142	7,368	13	7,243
Belgium, Luxembourg	62,340	—	700	61,641	2,775	50,068
France	32,520	—	—	32,520	2,076	26,679
Federal Republic of Germany	23,648	5,928	2	17,718	92	7,229
Italy	24,534	4,863	—	19,670	917	15,824
EUROPEAN FREE TRADE ASSOCIATION	135,047	95,167	294	39,587	1,376	34,413
Sweden	9,592	6,662	—	2,930	—	2,777
Norway	113,675	88,112	—	25,563	1,376	23,942
Austria	7,238	—	—	7,238	—	6,895
Switzerland	4,542	393	294	3,856	—	799
German Democratic Republic	1	—	—	1	—	—
Hungary	127	—	—	127	—	127
U.S.S.R.	19,793	22	19,771	—	—	—
Spain	8,704	1,102	—	7,602	4,109	3,061
Gibralter	44	—	—	44	—	44
Yugoslavia	21,498	—	—	21,498	47	13,316
Greece	1,868	—	—	1,868	980	886
Romania	15,341	227	—	15,114	—	15,030
Turkey	44	—	—	44	—	5
ASIA	104,051	93	330	103,628	7,571	91,470
Israel	2,875	—	327	2,548	298	2,184
Thailand	20	—	—	20	—	—
Republic of Korea	9	—	—	9	6	2
Hong Kong	4,809	—	3	4,806	4,780	26
Taiwan, Republic of China	2,034	—	—	2,033	—	1,970
Japan	94,303	93	—	94,210	2,487	87,287
OCEANIA	13,915	1	21	13,893	80	13,306
Australia	13,904	*	21	13,882	80	13,295
New Zealand	11	1	—	11	—	10
AFRICA	220,878	220,338	24	516	—	40
Cameroon	40	—	—	40	—	—
Ghana	219,639	219,615	24	—	—	—
Republic of South Africa	1,199	723	—	476	—	—

Details may not add to totals because of rounding
**Less than 500 pounds*
SOURCE: U.S. Department of Commerce, Industry and Trade Administration, and Bureau of The Census
NOTE: Reimports are metal exported for processing and returned for further processing (TSUSA 906.30)

Plate	Foil, Total	Capacitor Foil	Foil, not Over 0.00035"	Foil, over 0.00035"	Rod and Bar	Wire	Cable	Angles, Shapes, and Sections	Pipe and Tube	Powder and Flakes
12,688	17,925	1,870	10,036	6,020	37,959	6,902	146	1,664	1,098	3,361
1,331	930	11	802	118	2,233	317	29	1,468	514	1,230
1,300	642	—	564	78	2,152	302	29	1,457	288	1,230
31	288	11	238	40	81	14	—	11	226	*
—	—	—	—	—	—	—	—	—	—	—
64	2,112	—	1,555	557	21,554	2,642	—	—	*	295
—	—	—	—	—	21,554	2,642	—	—	*	—
—	—	—	—	—	—	—	—	—	—	143
—	—	—	—	—	—	—	—	—	—	—
9	2,112	—	1,555	557	—	—	—	—	—	152
55	—	—	—	—	—	—	—	—	*	—
9,975	14,214	1,851	7,625	4,688	13,403	1,455	1	191	494	1,722
8,693	11,209	1,850	5,106	4,253	6,545	219	1	184	391	1,721
—	*	—	—	*	—	—	—	—	*	—
1,457	361	—	42	319	32	45	*	4	51	1,004
—	—	—	—	—	—	—	—	6	—	—
69	28	—	27	*	—	—	—	6	10	—
2,663	39	—	34	5	5,951	142	—	—	—	2
2,172	1,406	852	242	312	27	*	—	*	144	17
754	8,271	73	4,760	3,437	331	6	*	169	169	698
1,578	1,105	925	1	179	204	26	—	*	17	—
1,075	2,701	*	2,446	254	11	1	—	2	8	1
144	2	*	—	2	*	—	—	1	5	1
234	—	—	—	—	10	—	—	*	*	—
200	141	—	—	141	—	—	—	—	2	—
496	2,557	—	2,446	112	—	1	—	1	1	—
—	1	1	—	—	—	—	—	—	*	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
15	262	—	123	139	—	154	*	—	—	—
—	—	—	—	—	—	—	—	—	—	—
107	—	—	—	—	6,847	1,080	—	5	95	—
—	2	—	—	2	—	—	—	—	—	—
84	—	—	—	—	—	—	—	—	—	—
—	39	—	—	39	—	—	—	—	—	—
1,318	221	8	5	209	768	1,995	116	2	89	78
—	38	—	—	38	—	—	—	—	27	—
—	—	—	—	—	—	—	—	—	20	—
—	1	—	—	1	—	—	—	—	—	—
—	*	—	—	*	—	—	—	—	—	—
—	—	—	—	—	—	—	50	1	12	—
1,318	182	8	5	169	768	1,995	66	*	29	78
—	448	—	—	448	—	55	—	4	1	—
—	448	—	—	448	—	55	—	4	*	—
—	*	—	—	*	—	—	—	—	*	—
—	—	—	—	—	—	440	—	—	—	36
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	440	—	—	—	36

United States Exports by Product and Country

United States Exports by Product and Country, 1979

Thousands of pounds

	Total	Ingot	Waste and Scrap	Semifabricated Total	Plate, except Circles and Discs	Sheet, except Circles and Discs
TOTAL, ALL COUNTRIES	1,637,086	401,300	614,162	621,625	27,847	366,545
NORTH AMERICA	497,419	99,911	53,813	343,695	15,138	217,694
Canada	340,603	41,855	29,017	269,731	11,222	192,727
Mexico	136,834	48,633	24,740	63,461	3,750	24,051
El Salvador	5,608	3,019	—	2,589	4	27
Costa Rica	3,226	902	—	2,323	28	81
Panama	3,743	2,822	—	921	22	64
Jamaica	742	38	43	661	11	104
Dominican Republic	1,169	477	7	685	41	231
Trinidad	953	105	—	848	12	250
Other	4,541	2,060	5	2,476	49	159
SOUTH AMERICA	91,827	8,990	38,435	44,403	798	25,090
Colombia	2,214	179	—	2,034	62	828
Venezuela	19,269	182	66	19,020	515	13,163
Peru	1,889	542	1,206	141	15	6
Chile	2,051	816	648	586	37	7
Brazil	63,225	6,321	36,323	20,581	55	10,638
Argentina	1,272	*	186	1,086	60	288
Other	1,907	949	—	954	54	160
EUROPE, TOTAL	322,368	41,207	143,673	137,488	7,901	102,461
EUROPEAN ECONOMIC COMMUNITY	283,505	38,628	119,306	125,572	7,552	93,944
Denmark	7,357	258	12	7,087	283	6,260
United Kingdom	59,115	5,512	4,823	48,780	1,448	44,079
Rep. of Ireland	2,181	11	14	2,156	12	1,864
Netherlands	41,903	7,913	19,766	14,223	671	9,095
Belgium & Luxembourg	20,978	1,383	16,829	2,766	917	894
France	33,270	14,008	2,525	16,736	921	11,799
Federal Republic of Germany	79,059	6,953	56,140	15,966	1,983	7,210
Italy	39,642	2,588	19,197	17,856	1,316	12,743
EUROPEAN FREE TRADE ASSOCIATION	19,719	2,484	11,549	5,685	289	2,613
Sweden	8,897	663	6,898	1,336	149	297
Finland	4,925	116	4,096	714	2	600
Switzerland	2,938	1,628	329	980	131	731
Other	2,958	77	227	2,655	8	986
Spain	16,814	79	12,817	3,918	59	3,734
Other	2,330	17	—	2,313	1	2,170
ASIA	692,859	247,851	374,045	70,964	3,449	13,539
Iran	4,112	1	—	4,110	—	376
Israel	7,325	670	109	6,545	766	996
Saudi Arabia	12,551	455	—	12,096	55	1,078
United Arab Emirates	1,664	1,136	—	528	11	5
India	883	3	268	611	—	33
Pakistan	3,590	1,390	1,530	669	—	10
Thailand	4,201	2,724	7	1,470	13	87
Malaysia	5,692	2,433	—	3,259	—	2
Singapore	5,944	3,521	773	1,651	144	545
Indonesia	3,983	943	—	3,040	2	833
Philippines	10,242	5,023	374	4,845	5	124
Korean Republic	31,160	22,411	6,749	1,999	511	317
Hong Kong	2,890	544	591	1,754	6	394
Taiwan, Republic of China	27,194	7,765	15,984	3,445	279	352
Japan	565,685	198,753	347,618	19,315	1,491	8,254
Other	5,745	78	41	5,627	167	133
OCEANIA	12,874	2,936	3,848	6,089	465	1,277
Australia	11,254	2,935	3,008	5,311	452	966
Other	1,619	1	840	778	14	311
AFRICA	19,739	405	348	18,986	96	6,484
Morocco	2,193	—	—	2,193	—	26
Libya	8,292	—	—	8,292	1	3
Republic of South Africa	5,161	191	330	4,640	57	4,022
Other	4,093	214	18	3,862	39	2,432

*Less than 500 pounds

Details may not add to totals because of rounding.

Circles and Discs, Sheet and Plate	Foil, Not Backed	Rod and Bar	Bare Wire	Cable	Electrical Conduit	Other Pipe and Tube	Angles, Shapes, and Sections	Powder and Flakes	Castings	Forgings
10,118	20,566	61,510	30,129	30,600	1,901	14,277	22,402	14,635	17,840	3,526
3,862	5,909	35,128	14,816	2,192	1,247	7,610	16,589	4,308	16,261	2,941
2,863	2,259	12,143	5,189	1,926	666	3,951	15,206	3,763	15,195	2,622
242	2,148	18,378	9,090	88	511	2,976	576	496	902	254
75	56	2,407	12	—	—	4	—	—	3	—
32	84	2,064	6	—	1	11	5	1	9	1
241	294	16	141	11	—	20	3	2	108	*
390	1	5	11	1	—	132	4	1	1	*
3	165	15	104	13	30	78	2	1	2	—
—	55	2	7	125	—	60	337	—	—	—
16	846	96	257	28	38	378	457	46	42	64
333	2,685	573	4,509	1,161	89	802	367	7,801	85	110
—	18	79	106	771	—	3	20	146	*	—
3	2,066	21	2,556	156	76	243	146	42	32	—
—	21	3	46	*	—	26	22	—	1	1
—	106	1	254	*	—	71	109	—	1	—
246	196	137	1,267	232	5	31	28	7,596	41	109
69	178	24	204	—	3	247	—	14	1	—
15	101	307	76	1	5	181	42	3	9	*
368	6,634	9,905	4,251	78	25	1,446	2,583	690	861	285
364	5,757	8,418	3,977	29	10	1,335	2,457	644	829	255
—	454	9	62	—	—	5	3	—	9	1
76	415	1,287	531	18	9	186	202	144	352	33
—	15	16	15	—	—	16	8	4	183	25
69	34	2,201	361	—	—	30	1,568	102	62	31
1	312	358	218	—	—	28	10	11	17	1
110	3,189	69	215	7	*	89	21	170	119	29
24	730	3,490	1,394	2	1	894	53	110	71	4
85	609	989	1,182	2	—	88	591	104	17	132
4	827	1,467	245	1	*	62	100	31	20	24
—	715	20	43	1	—	6	94	7	3	2
—	34	2	39	—	—	36	—	—	—	*
4	18	51	28	—	*	6	3	5	5	—
—	60	1,393	135	—	—	14	3	19	13	22
—	36	19	23	—	—	3	25	3	13	5
—	14	1	6	47	15	45	2	12	—	1
5,423	5,014	13,871	4,708	18,249	525	1,998	2,392	1,016	596	184
—	79	—	24	3,627	—	4	—	—	—	—
281	434	2,905	754	3	—	207	145	20	33	2
1,351	1,535	56	522	5,773	475	360	852	*	38	2
—	262	—	1	39	9	64	135	—	1	—
—	211	1	140	—	—	9	—	216	—	—
—	2	597	—	—	—	59	*	*	1	—
172	94	848	240	—	*	1	—	—	13	—
—	8	3,156	57	—	—	35	*	—	—	—
31	142	558	72	25	2	30	15	60	27	1
16	186	*	31	1,942	—	15	1	—	—	14
843	18	157	441	3,118	1	39	32	48	17	*
410	7	558	65	—	—	28	45	47	6	5
41	227	156	66	4	—	6	733	29	55	37
589	142	97	1,375	*	*	257	5	83	242	25
1,127	1,297	4,781	912	33	38	323	298	502	162	97
560	369	—	9	3,684	1	560	132	11	1	—
82	237	1,869	1,373	17	12	75	216	441	20	4
82	157	1,824	1,285	17	—	63	63	379	19	4
—	80	44	88	—	12	12	153	62	2	—
49	87	165	472	8,904	3	2,346	254	108	17	3
—	—	—	—	—	—	2,162	6	—	—	—
—	13	—	232	8,033	—	9	—	—	—	—
48	52	116	179	40	—	2	2	104	15	3
1	22	48	61	830	3	173	246	4	1	—

SOURCE: U.S. Department of Commerce; Industry and Trade Administration, and Bureau of the Census.

World Aluminum Statistics

The aluminum industry is international by its very nature. From the extraction of its basic source material at bauxite sites located in a number of countries throughout the world to its fabrication and distribution in every nation on earth, the aluminum industry should be viewed in a world-wide perspective. This section attempts to provide data on two of the key aspects of world aluminum, world primary aluminum production and the apparent per capita consumption of aluminum for selected countries.

World production of primary aluminum in 1979 is estimated to have been 15,979 thousand short tons,* up slightly from 1978. World primary aluminum production is presented by country for the years 1969-1979 on pages 54 and 55.

Data on the consumption of aluminum on a per capita basis are presented for 35 countries. These countries represent three-quarters of the world's production of primary aluminum. The data are presented in a uniform statistical format for the years 1969-1979. The data for supply and consumption show ingot and mill product detail for imports and exports. Midyear population figures are presented as part of the calculation of consumption on a per capita basis for each country.

*Short tons are being used uniformly in these as well as preceding sections of the Review.

An aluminum tower stands silently, holding aluminum electrical transmission cable aloft to help meet the nation's energy needs. The electrical market showed the best growth among major domestic markets with shipments of 1.6 billion pounds in 1979—a 6 percent increase over the previous year. Pound-for-pound, aluminum is the most efficient electrical conductor in use today.

World Primary Aluminum Production

DESCRIPTION:
World production of primary aluminum is shown in the table below. World production figures are available from a number of sources. The Review utilizes data published by the Bureau of Mines, U.S. Department of the Interior.

HIGHLIGHTS:
Estimated 1979 world production of primary aluminum totaled 15,979 thousand short tons, up 3 percent from the revised estimate of 15,510 thousand tons in 1978. Over the decade 1969-1979 world production increased 62 percent, an annual growth rate of 4.9 percent. North America accounted for 37.6 percent of the world's 1979 production and Europe 40.2 percent. The remaining fifth came from Asia (12.4 percent), South America (4.1 percent), Oceania (2.9 percent), and Africa (2.7 percent).

The worlds largest producing countries were the United States, the U.S.S.R., Japan, Canada, and the Federal Republic of Germany. Together, these five nations produced 9,790 thousand tons of aluminum last year, over three-fifths of the total. There were 41 countries throughout the world producing primary aluminum in 1979, up from 33 a decade before. The newest entrant is the United Arab Emirates, which produced 10 thousand short tons during 1979.

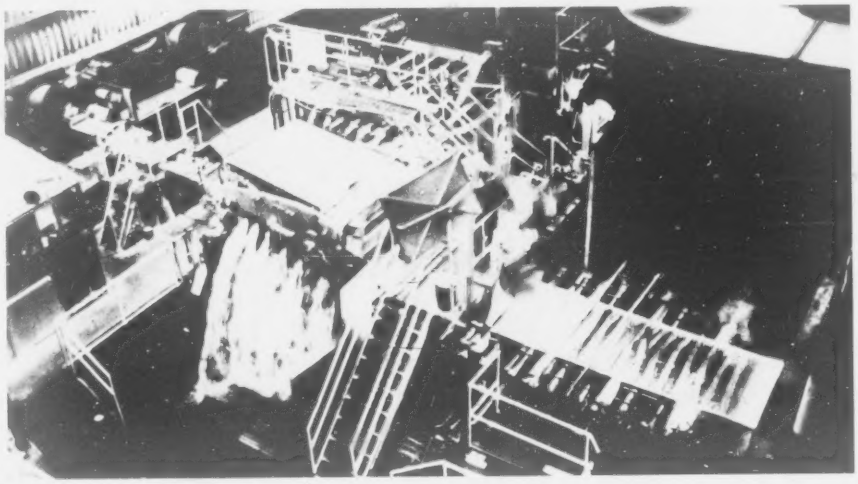
World Primary Aluminum Production

Thousands of short tons

COUNTRY	1979p	1978r	1977r	1976	1975	1974	1973	1972	1971	1970	1969
WORLD TOTAL(1)	15,979	15,510r	15,093r	13,762	13,387	14,516	13,364	12,133	11,375	10,641	9,885
NORTH AMERICA—Total	6,006	6,007r	5,659r	4,994	4,901	6,073	5,610	5,178	5,090	5,085	4,908
Canada	935	1,156r	1,073r	696	978	1,125	1,038	1,012	1,121	1,072	1,079
United States	5,023	4,804	4,539	4,251	3,879	4,903	4,529	4,122	3,925	3,976	3,793
Mexico(5)	48	47	47	47	44	45	43	44	44	37	36
SOUTH AMERICA—Total	662	410r	340r	303	271	233	206	182	183	149	140
Argentina	100	59r	55	48	27	1	—	—	—	—	—
Brazil	264	205r	184	153	134	139	123	107	98	63	62
Surinam(4)	68	63r	53r	51	46	38	57	47	60	61	59
Venezuela	230	83r	48	51	64	55	26	28	25	25	19
ASIA—Total(1)	1,988	2,007r	2,054	1,719	1,774	1,677	1,767	1,594	1,390	1,173	924
Bahrain	139	135	134	135	128	130	113	69	11	—	—
China, Mainland(1)	360	330r	280	220	220	165	165	150	150	140	130
China, Taiwan	62	55	33	28	31	35	39	35	29	30	24
India	233	236r	197r	231	184	142	170	197	196	178	136
Iran	15	28	23	34	56	54	37	7	—	—	—
Japan	1,114	1,166	1,310	1,013	1,117	1,232	1,209	1,119	985	808	627
South Korea	20	22r	20r	19	20	19	34	17	19	17	7
Turkey	35	35r	57r	39	18	—	—	—	—	—	—
United Arab Emirates	10	—	—	—	—	—	—	—	—	—	—
AFRICA—Total	435	371	414	377	301	308	273	268	210	183	177
Cameroon	48	46r	61	64	57	52	49	51	56	58	52
Egypt	110	111r	98	65	2	—	—	—	—	—	—
Ghana	186	125	169	162	158	173	166	159	122	125	125
South Africa	91	89	86	86	84	83	58	58	32	—	—
OCEANIA—Total	468	457	433	410	356	364	356	324	270	227	139
Australia	297	290	273	256	236	242	228	227	246	227	139
New Zealand	171	167	160	154	120	122	128	97	24	—	—

(1) Estimated by the Bureau of Mines, Department of the Interior
(2) Production prior to 1969 includes secondary
(3) Reflects series revision incorporating the United Kingdom into the Common Market in 1973
(4) For 1978, estimate of shipments

Redeeming an energy conservation pledge to the government, the aluminum industry has cut its energy consumption by more than 11 percent from 1972 rates. The use of efficient processing methods, such as this continuous casting operation, is part of this effort.



COUNTRY	1979p	1978r	1977r	1976	1975	1974	1973	1972	1971	1970	1969
EUROPE—Total[1]	6,420	6,258r	6,193r	5,959	5,784	5,758	5,152	4,587	4,232	3,824	3,597
Common Market Countries—Total[3]	2,229	2,211r	2,198	2,071	2,007	2,031	1,672	1,460	1,285	1,049	973
France	436	431	441	424	422	434	396	433	422	420	410
Germany, West	818	815	818	768	747	759	587	490	471	341	290
Italy	297	295r	287	228	210	238	203	165	132	161	156
The Netherlands	282	288	266	282	288	277	209	183	128	83	80
United Kingdom	396	382	386	369	340	323	277	189	131	44	37
European Free Trade Assoc.—Total	1,105	1,062r	1,055r	1,005	994	1,096	1,045	932	916	889	832
Austria	102	101	101	98	98	101	98	92	100	99	99
Iceland	80	81r	82r	72	68	77	79	50	45	42	14
Norway	742	705	693r	658	656	731	684	614	584	576	560
Sweden	90	87r	91	91	85	91	90	84	83	71	74
Switzerland	91	88	88	86	87	96	94	92	104	101	85
Other—Total[1]	3,086	2,985r	2,940	2,884	2,783	2,631	2,435	2,195	2,031	1,886	1,792
Czechoslovakia[1][2]	40	40r	40	40	48	55	53	47	41	34	35
Germany, East[1]	70	72	72	65	65	65	101	65	65	65	60
Greece	155	159r	143	148	150	164	159	143	128	96	90
Hungary	80	79	79	78	77	76	75	75	74	73	71
Poland[4]	106	110r	115	114	113	112	112	112	110	109	107
Romania[5]	240	235r	230	228	225	206	156	134	123	112	99
Spain	286	234	233	232	232	211	179	159	139	132	117
U.S.S.R.[1]	1,900	1,840	1,810	1,760	1,690	1,580	1,500	1,380	1,300	1,212	1,160
Yugoslavia	209	216	218	218	183	162	100	80	51	53	53

r—Revised.
p—Preliminary.
Detail may not add to totals due to rounding.
SOURCE: Bureau of Mines, U.S. Department of the Interior.

Aluminum Supply and Apparent Consumption — Selected Countries

DESCRIPTION:

The Aluminum Association, in conjunction with industry associations in foreign countries, and, in some instances appropriate government agencies, is developing a joint program to compile uniform statistical data showing total supply and apparent consumption. Total supply for an individual country consists of primary production, imports, and secondary recovery. Apparent consumption is equal to the sum of these sources of total supply less exports and inventory changes. Production of primary aluminum for foreign countries is tabulated for the years 1969-1979 on pages 54 and 55.

The tables on pages 58-69 show total supply and apparent consumption corresponding to the above format for the following countries:

Argentina
Australia
Austria
Belgium
Brazil
Cameroon
Canada
Finland
France
Germany, West
Greece
Iceland
Indonesia
Iran
Ireland
Israel
Italy
Japan
Mexico
The Netherlands
New Zealand
Nicaragua
Norway
Panama
The Philippines
Portugal
South Africa
Spain
Sweden
Switzerland
Taiwan
Turkey
United Kingdom
United States
Venezuela

The format for compiling total supply and apparent consumption data is shown below.

In order to develop a basis for showing relative aluminum usage by country and to provide a measure of trend over time, per capita consumption data have been calculated for each country. For this purpose mid-year population estimates have been used. It is important to emphasize that these estimates are not the only way of measuring relative consumption data among countries. Obviously, the composition of a country's population, standard of living, industrialization, climate, availability and economies of other materials, and a number of other important considerations affect the per capita use of aluminum. The formula is used because it is simple and permits the Association to compile data for more countries, with their cooperation, than can be compiled using more detailed information.

When data for individual lines are not available or are not appropriate, they are omitted. Inventory changes cover suppliers' inventories only. Consumption estimates exclude changes in customer inventories.

The components of the formula are numbered and cross referenced to the country details on pages 58-69.

A summary of per capita consumption covering the years 1969-1979 for each of the countries is shown on page 57.

HIGHLIGHTS:

Of the 28 countries for which per capita consumption data are available for both 1978 and 1979, 22, or nearly four-fifths showed increases in usage. Only three, Japan, the United Kingdom, and Venezuela showed declines. Over the decade from 1969 to 1979 the largest growth on a percentage basis has been shown by Taiwan, Republic of China, Venezuela, Indonesia, Brazil, Ireland, Iceland, and the Netherlands.

At 66 pounds per person, the United States was the largest user of aluminum on a per capita basis. That computes to approximately 1.25 pounds per person per week. Other large consumers of aluminum were Norway (53.1 pounds), West Germany (44.7 pounds), Japan (42.2 pounds), Australia (37.6 pounds), Sweden, and Canada (37.4 pounds each).

Per Capita Aluminum Consumption Formula

1. +Primary aluminum production
2. ±Government stockpile adjustment
3. +Imports of ingot
4. +Imports of mill products (aluminum alloy weight)
5. +Recovery of secondary aluminum alloys (from domestic and imported scrap)
6. −Exports of ingot
7. −Exports of mill products (aluminum alloy weight)
8. =Apparent aluminum consumption
9. +Beginning of year inventory
10. −End of year inventory
11. ±Inventory change
12. =Aluminum consumption (with inventory change)
13. ÷Mid-year population
14. =Per capita consumption (lbs) (without inventory change)
15. =Per capita consumption (lbs) (with inventory change)

Per Capita Aluminum Consumption

Pounds per person per year

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
Argentina*	6.4	5.0	5.9	6.2	8.3	9.0	8.7	9.7	*6.6	5.9	6.0
Australia*	37.6	32.5	31.3	31.0	25.7	33.6	29.1	23.4	24.7	24.0	22.6
Austria	25.0	23.6*	24.7*	23.3*	24.4*	20.4*	19.8*	17.9*	18.2*	18.2	13.5
Belgium	20.3	19.6	21.4	23.4	16.5	23.0	21.9	18.1	15.4	13.1	12.9
Brazil*	6.2	5.7r	5.7	5.2	4.9	4.8	4.0	3.5	2.9	2.4	2.4
Cameroon	na	na	5.3	8.4	6.8	8.0	3.6	5.8	4.5	3.6	na
Canada*	37.4	35.7r	31.5	30.8	28.4	35.4	33.1	30.6	29.8	25.8	25.5
Finland	na	14.8	19.3	20.6	21.3	22.4	17.5	14.6	13.2	16.7	17.7
France*	28.2	25.4	26.0	26.5	20.5	25.0	24.8	21.6	19.5	19.5	19.5
Germany, West*	44.7	42.9	41.8	42.6	32.2	36.1	38.8	33.7	32.1	30.1	30.3
Greece	na	8.7	9.0	8.1	9.8	8.6	7.0	6.9	7.7	5.9	3.3
Iceland	20.4	15.9	18.9	18.0	15.5	21.3	16.0	38.1	9.7	7.8	9.9
Indonesia	0.6	0.6	0.6	0.5	2.9	1.5	1.9	0.2	0.2	0.4	0.2
Iran	na	na	4.3*	4.2*	3.0*	2.8*	2.0*	1.7	1.6	1.8	1.7
Ireland	10.9	10.6	7.9	9.1	4.3	10.6	7.8	3.4	4.5	4.7	4.8
Israel	na	na	9.4	9.9	na	16.9	9.4	9.7	11.3	12.1	11.2
Italy*	28.4	24.2	23.8*	21.8	15.2	23.3	21.0	17.7	15.8	17.0	14.8
Japan*	42.2	43.4r	35.4	35.8	26.9	32.5	37.7	32.4	25.8	24.8	22.6
Mexico*	4.9	4.1r	2.6	3.4	3.5	3.8	3.8	3.4	2.5	3.2	2.9
The Netherlands	25.2*	23.0r	25.1*	29.1*	18.3*	17.1*	14.8*	13.4	16.0	12.6	12.2
New Zealand	19.0*	17.0r*	17.6*	20.6*	15.1*	27.3*	23.0*	13.2*	16.0*	19.2	14.6
Nicaragua	na	0.5	1.3	1.0r	1.4r	1.8r	1.1r	1.0	1.2r	1.3r	1.1r
Norway*	53.1	46.1	50.9	55.8	43.6	51.6	37.8	37.5	33.1	31.0	33.6
Panama	2.0	1.5	1.8r	2.6	2.6	3.8	3.4	2.9	2.7	2.4	2.6
Repl. of the Philippines	1.5	0.8	0.9	0.9	0.5	0.9	0.8	0.6	0.6	0.6	1.1
Portugal	na	8.8	6.9	5.6	2.7	7.9	5.1	5.8	4.8	3.1	2.4
South Africa*	5.3	5.1	5.2	6.0	6.2	6.5	5.7	5.5	5.4	6.0	5.0
Spain	12.7*	12.4*	14.1*	13.4*	11.6*	13.8*	12.2*	10.0*	7.6*	7.4	7.4
Sweden	37.4	33.7	35.9	41.5	39.8	42.5	40.5	34.0	30.3	32.6	32.4
Switzerland	31.4*	29.8*	28.6*	27.9*	22.2*	34.9*	31.1*	27.9*	22.9*	30.1*	27.5
Taiwan, Republic of China*	16.0	12.8	10.5	8.7	6.9	6.6	7.8	4.8	4.4	4.9	3.3
Turkey	2.4	2.4	3.4r	3.2	3.7	1.7r	2.5	2.5	2.1	1.4	1.9
United Kingdom*	20.9	26.5	24.3	24.8	21.7	27.4	27.5	24.3	22.1	24.4	23.8
United States*	65.9	65.9r	60.3	55.8	44.9r	60.4r	65.1	55.7r	49.0	44.9	50.4
Venezuela*	9.3	11.3	9.7	8.1	6.1	5.2	4.8	3.5	3.2	2.5	2.9

* Adjusted for inventory change r– Revised na Not available

Per Capita Aluminum Consumption

Thousands of short tons

ARGENTINA

	1979	1978	1977r	1976	1975	1974	1973	1972	1971	1970	1969
1. + Primary aluminum production	130.5	54.5	57.8	47.5	26.1	0.8	—	—	—	—	—
3. + Imports of ingot	—	—	0.1	22.3	53.6	93.4	80.7	87.3	65.3	55.8	57.8
4. + Imports of mill products	0.8	0.7	0.3	0.1	3.7	1.1	7.2	9.6	1.3	0.9	0.6
5. + Recovery of secondary	10.8	8.8e	9.7e	15.9e	18.3e	21.4e	18.6e	20.1e	15.0e	12.8e	13.3e
6. Exports of ingot	43.0	8.3	—	—	—	—	—	—	—	—	—
7. − Exports of mill products	6.6	9.4	3.7	1.2	1.7	1.4	2.6	0.7	0.6	0.4	0.2
8. = Apparent aluminum consumption	92.6	46.3	64.2	84.5	100.0	115.3	103.9	116.3	81.0	69.1	71.5
11. ± Inventory change	+6.6	20.5	13.2	+4.5	−6.0	+3.1	3.0	1.8	+1.3	0.3	+1.9
12. = Aluminum consumption	86.0	66.8	77.4	80.0	106.0	−112.2	106.9	118.1	79.5	69.4	69.6
13. ÷ Mid-year population (mill.)	26.8	26.5	26.1	25.7	25.4	25.0	24.7	24.4	24.1	23.7	23.4
14. = Per capita consumption (lbs.) (1)	6.9	3.5	4.8	6.6	7.9	9.2	8.4	9.5	6.7	5.8	6.1
15. = Per capita consumption (lbs.) (2)	6.4	5.0	5.9	6.2	8.3	9.0	8.7	9.7	6.6	5.9	6.0

NOTES:
(1) Without inventory change.
(2) Adjusted for inventory change.
SOURCE: Ministerio De Defensa
e—Estimated.

AUSTRALIA

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. + Primary aluminum production	301.1	293.7	237.7	254.9	234.9	240.0	227.9	226.4	245.4	225.6	145.6
3. + Imports of ingot	3.9	0.2	—	—	0.3	10.4	8.9	0.9	0.4	0.6	1.2
4. + Imports of mill products	8.9	4.0	4.5	4.8	4.6	11.9	4.2	3.2	3.2	3.7	5.3
5. + Recovery of secondary	33.6	26.9	27.1	30.1	27.1	40.0	31.6	21.8	22.5	20.5	20.5
6. − Exports of ingot	69.6	84.1	75.7	77.7	83.9	55.8	62.3	109.5	89.0	92.0	25.9
7. − Exports of mill products	17.7	5.3	3.6	1.5	1.7	6.2	6.7	4.4	4.5	4.8	1.9
8. = Apparent aluminum consumption	260.1	235.3	226.0	210.6	181.3	240.3	203.6	138.4	177.9	153.6	144.3
11. ± Inventory change	−10.7	+4.2	+5.6	+1.1	+6.3	+16.3	+11.3	−12.3	+21.1	+3.6	+5.5
12. = Aluminum consumption	270.8	231.0	220.4	209.5	175.0	224.0	192.3	150.7	156.8	150.0	138.8
13. ÷ Mid-year population (mill.)	14.4	14.2	14.1	13.5	13.6	13.3	13.2	12.9	12.7	12.5	12.3
14. = Per capita consumption (lbs.) (1)	36.1	33.1	32.1	31.2	26.6	36.1	30.8	21.5	28.0	24.6	23.5
15. = Per capita consumption (lbs.) (2)	37.6	32.5	31.3	31.0	25.7	33.6	29.1	23.4	24.7	24.0	22.6

NOTES:
(1) Without inventory change.
(2) Adjusted for inventory change—primary metal only.
SOURCE: Aluminium Development Council of Australia Limited.

AUSTRIA

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. + Primary aluminum production	102.2	100.6	101.2	97.7	98.3	100.8	98.2	92.6	100.0	99.2	98.9
3. + Imports of ingot	33.8	16.4	21.2	23.1	19.8	19.6	18.7	15.2	10.9	7.6	7.1
4. + Imports of mill products	40.6	33.0	32.0	26.9	19.1	27.3	24.0	18.2	12.6	10.5	10.4
5. + Recovery of secondary (Domestic & Imported)	9.6	10.3	11.7	9.4	6.8	7.9	9.5	6.9	3.1	2.6	7.1
6. − Exports of aluminum ingot	11.4	12.9	9.6	9.5	9.4	24.1	29.9	32.3	33.6	17.1	34.1
7. − Exports of mill products	81.9	74.6	62.1	66.2	42.8	50.0	38.8	35.8	28.3	35.6	39.4
8. = Apparent aluminum consumption	92.9	72.8	94.4	81.4	91.8	81.5	81.8	64.8	64.6	67.2	49.9
11. = Inventory change	−0.7	−16.1	+2.0	−6.1	—	+5.1	+7.5	−2.2	−3.5	—	—
12. = Aluminum consumption	93.6	88.8	92.4	87.5	91.8	76.4	74.3	67.0	68.1	—	—
13. ÷ Mid-year population (mill.)	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.4	7.4
14. = Per capita consumption (lbs.) (1)	24.8	19.4	25.1	21.7	24.4	21.7	21.8	17.3	17.2	18.2	13.5
15. = Per capita consumption (lbs.) (2)	25.0	23.6	24.7	23.3	24.4	20.4	19.8	17.9	18.2	—	—

NOTES:
(1) Without inventory change.
(2) Adjusted for inventory change.
SOURCE: Fachverband Der Metallindustrie Osterreichs.

Detail may not add to totals due to rounding.

BELGIUM

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
3. +Imports of ingot	278.7	294.1	262.8	284.5	207.5	278.9	258.7	228.7	214.3	203.5	194.6
4. +Imports of mill products(1)	96.0	84.7	83.0	86.3	59.0	61.5	55.7	43.9	33.1	26.7	32.3
5. +Recovery of secondary	1.1e	1.1e	3.3e	2.9e	2.2e	3.0e	3.0e	2.9e	2.8e	2.2e	2.8e
6. −Exports of ingot	11.9	11.2	14.4	15.6	11.0	24.4	22.3	9.4	5.7	11.1	11.6
7. −Exports of mill products(1)	270.5	256.1	241.8	231.6	184.8	202.2	186.3	172.6	154.3	134.6	150.7
8. =Apparent aluminum consumption(2)	99.3	96.2	104.7	114.4r	81.1	112.7	109.0	88.0	74.8	63.3	61.7
13. −Mid-year population (mill.)	9.8	9.8	9.8	9.8	9.8	9.8	9.7	9.7	9.7	9.7	9.6
14. =Per capita consumption (lbs.) (3)	20.3	19.6	21.4	23.4r	16.5	23.0	21.9	18.1	15.4	13.1	12.9

NOTES:
(1) Excludes thin foil.
(2) Excludes thin foil, welded tubes and blanks. Stated consumption will not add from lines 3, 4, 5, 6, & 7.
(3) Without inventory change.
e—Estimated.
SOURCE: Union Des Industries Metaux Non Ferreux.

BRAZIL

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	262.5	205.5	184.2	153.4	133.7	125.2	123.1	107.6	88.9	61.8	47.2
3. +Imports of ingot	57.1	66.6	94.3	86.1	86.8	115.5	57.0	48.5	25.4	30.3	49.3
4. +Imports of mill products	30.1	16.3	32.3	17.0	17.1	23.1	13.7	10.2	14.8	14.3	10.4
5. +Recovery of secondary	59.3	54.2	36.9	30.9	22.7	24.7	20.4	14.3	8.3	6.6	7.2
6. −Exports of ingot	—	—	—	—	0.7	—	—	—	0.1	—	0.2
7. −Exports of mill products	9.5	4.3	3.1	2.0	—	0.3	0.8	—	0.4	—	—
8. =Apparent aluminum consumption	399.5	338.3	341.6	285.4	259.6	288.2	213.4	180.6	136.9	113.0	113.9
11. ±Inventory change	+26.7	+7.1	+19.4	+1.1	−10.8	+36.5	+6.4	+4.2	−3.3	−0.9	+4.9
12. =Aluminum consumption	372.8	331.2	322.2	284.3	270.4	251.7	207.0	176.4	140.2	113.9	109.0
13. −Mid-year population (mill.)	119.7	116.4r	113.2	110.1	110.1	104.6	102.5	100.0	97.0	95.3	92.3
14. =Per capita consumption (lbs.) (1)	6.7	5.8r	6.0	5.2	4.7	5.5	4.2	3.6	2.8	2.4	2.5
15. =Per capita consumption (lbs.) (2)	6.2	5.7r	5.7	5.2	4.9	4.8	4.0	3.5	2.9	2.4	2.4

NOTES:
(1) Without inventory change.
(2) Adjusted for inventory change.
na Not available.
SOURCE: Associacao Brasileira do Aluminio.

CAMEROON

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	49.2	45.5	50.9	53.7	57.2	51.6	48.6	50.9	55.9	57.8	na
3. +Imports of ingot	—	—	—	—	—	—	—	—	—	—	na
4. +Imports of mill products	na	na	1.3	2.0	0.9	0.4	0.7	0.3	0.6	1.3	na
6. −Exports of ingot	na	na	26.3	22.9	27.6	23.5	30.9	32.8	31.6	43.1	na
7. −Exports of mill products	na	na	6.0	4.9	7.9	4.6	8.0	7.2	8.4	3.2	na
8. =Apparent aluminum consumption	na	na	20.0	27.9	22.6	23.9	10.4	11.2	18.4	12.8	na
11. ±Inventory change	−2.9	+2.1	1.0	+0.3	+0.8	1.2	−0.7	−6.4	−5.0	+2.2	na
12. =Aluminum consumption	na	na	20.9	27.6	21.8	25.1	11.0	17.6	13.4	10.6	na
13. −Mid-year population (millions)	8.06	7.91	7.91	6.53	6.40	6.28	6.17	6.06	5.94	5.84	na
14. =Per capita consumption (lbs.) (1)	na	na	5.1	8.6	7.1	7.6	3.4	3.7	6.2	4.4	na
15. =Per capita consumption (lbs.) (2)	na	na	5.3	8.4	6.8	8.0	3.6	5.8	4.5	3.6	na

SOURCE: Aluminum Pechiney.

Per Capita Aluminum Consumption—Continued

Thousands of short tons

CANADA

	1979	1978r	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	951.9	1,158.0	1,076.3	695.5	969.9	1,111.8	1,030.0	1,000.0	1,103.0	1,063.8	1,084.1
3. +Imports of ingot	26.5	12.7	22.9	24.9	20.1	52.9	49.5	38.3	17.5	13.4	11.5
4. +Imports of mill products	158.6	118.7	106.9	102.9	67.7	119.2	118.1	108.1	106.7	89.2	96.4
5. +Recovery of secondary	82.7e	82.5r	53.2	47.0	42.9	39.9	42.7	35.2	33.0	30.0	34.8
6. =Exports of aluminum ingot	606.8	950.8	722.3	559.4	561.0	751.2	769.9	770.2	888.7	839.6	886.7
7. −Exports of mill products	39.8	43.9	48.0	31.1	26.9	52.1	31.4	40.0	31.4	22.9	28.0
8. =Apparent aluminum consumption	573.1	377.2r	489.1	279.8	512.7	520.5	439.0	371.4	339.9	333.9	317.1
11. =Inventory change	+132.2	−42.1r	+122.7	−75.4	189.3	123.9	73.3	37.9	17.8	58.2	43.1
12. =Aluminum consumption	440.9	419.2r	366.4	355.2	323.4	396.6	365.7	333.5	322.1	275.7	269.0
13. −Mid-year population (mill.)	23.6	23.5	23.3	23.1	22.8	22.4	22.1	21.8	21.6	21.4	21.1
14. =Per capita consumption (lbs.) (1)	48.6	32.1r	42.0	24.2	45.0	46.4	39.7	34.0	31.4	31.2	29.6
15. =Per capita consumption (lbs.) (2)	37.4	35.7r	31.5	30.8	28.4	35.4	33.1	30.6	29.8	25.8	35.5

NOTES:
(1) Without inventory change.
(2) Adjusted for inventory change.
e—Estimated.
r—Revised.

SOURCE: Statistics Canada and Alcan Canada Products Ltd.

Detail may not add to totals due to rounding.

FINLAND

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
3. +Imports of ingot	27.4	23.9	31.5	27.0	21.2	25.6	19.9	16.1	15.2	18.7	15.2
4. +Imports of mill products	40.9	31.1	32.6	34.8	29.3	38.9	28.7	25.5	23.1	23.1	20.6
5. +Recovery of secondary	na	9.8	10.3	8.0	6.8	6.4	8.8	6.9	5.4	4.1	3.9
6. −Exports of ingot	1.5	2.9	3.6	1.3	0.5	0.9	1.5	0.8	0.6	—	0.6
7. −Exports of mill products	32.8	26.9	25.0	19.8	17.7	17.2	15.2	13.9	12.7	7.4	5.2
8. =Apparent aluminum consumption	na	35.1	45.8	48.7	50.2	52.8	40.7	33.8	30.4	38.5	33.9
13. −Mid-year population (mill.)	4.8	4.8	4.7	4.7	4.7	4.7	4.7	4.6	4.6	4.6	4.6
14. =Per capita consumption (lbs.) (1)	na	14.8	19.3	20.6r	21.3	22.4	17.5	14.6	13.2	16.7	14.7

NOTES:
(1) Without inventory change.
na: Not available.
SOURCE: Central Statistical Office of Finland.

FRANCE

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	435.5	431.4	439.6	424.5	421.7	433.7	395.6	434.0	413.5	420.0	409.7
3. +Imports of ingot	347.6	320.9	303.5	277.1	240.2	289.8	253.3	214.0	182.4	202.1	156.9
4. +Imports of mill products	205.4	158.7	156.1	187.2	115.3	144.6	147.1	117.8	90.1	67.9	90.3
5. +Recovery of secondary	182.7	177.2	168.1	151.0	125.7	140.6	139.2	125.5	109.8	96.3	97.4
6. −Exports of ingot	173.7	183.4	152.8	164.5	180.7	198.2	202.4	182.3	145.4	162.0	198.2
7. −Exports of mill products	286.5	236.6	207.5	178.0	142.1	152.1	145.5	129.3	115.5	115.4	94.2
8. =Apparent aluminum consumption	710.9	668.3	677.0	697.3	580.1	658.3	587.3	579.7	534.9	508.8	461.9
11. =Inventory change	−39.9	−6.7	−11.8	−4.2	+40.9	+7.8	−58.5	+20.6	+34.2	+14.4	−28.5
12. =Aluminum consumption	750.8	675.0	688.8	701.5	539.2	650.5	645.8	559.1	500.7	494.4	490.4
13. −Mid-year population (mill.)	53.3	53.1	53.0	52.9	52.9	52.1	52.1	51.7	51.3	50.8	50.3
14. =Per capita consumption (lbs.) (1)	26.7	25.2	25.5	26.4	22.0	25.2	22.5	22.4	20.9	20.0	18.4
15. =Per capita consumption (lbs.) (2)	28.2	25.4	26.0	26.5	20.5	25.0	24.8	21.6	19.5	19.5	19.5

NOTES:
(1) Without inventory change.
(2) Adjusted for inventory change.
SOURCE: Chambre Syndicale des Metaux and Aluminium Pechiney.

GERMANY, WEST

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	817.8	815.3	817.7	768.4	747.1	759.2	587.2	489.9	471.2	340.9	289.6
3. +Imports of ingot	56.8	478.4	485.5	459.9	317.0	379.7	448.6	396.9	362.8	487.6	471.1
4. +Imports of mill products	284.6	226.5	235.7	220.6	151.3	155.6	174.3	154.8	124.8	99.5	110.0
5. +Recovery of secondary	468.9	434.7	390.4	353.6	296.8	326.4	327.7	278.0	269.6	237.1	260.1
6. −Exports of ingot	273.1	299.4	219.5	310.2	176.1	192.4	115.3	94.0	69.7	53.8	39.8
7. −Exports of mill products	426.3	383.8	332.8	302.7	211.6	297.9	228.3	182.7	153.6	142.4	157.1
8. =Apparent aluminum consumption	1,435.7	1,271.7	1,377.0	1,189.6	1,124.5	1,130.6	1,194.2	1,042.9	1,005.2	968.9	934.0
11. ±Inventory change	+61.9	−44.2	+94.5	−121.3	+129.2	+10.6	−9.3	+2.0	+21.7	+40.7	+13.1
12. =Aluminum consumption	1,373.8	1,315.9	1,282.5	1,310.9	995.3	1,120.0	1,203.5	1,040.9	983.5	928.2	920.9
13. −Mid-year population (mill.)	61.4	61.3	61.4	61.5	61.8	62.1	62.0	61.7	61.3	61.6	60.8
14. =Per capita consumption (lbs.) (1)	46.8	41.5	44.9	38.7	36.4	36.4	38.5	33.8	32.8	31.5	30.7
15. =Per capita consumption (lbs.) (2)	44.7	42.9	41.8	42.6	32.2	36.1	38.8	33.7	32.1	30.1	30.3

NOTES:
(1) Without inventory change
(2) Adjusted for inventory change
SOURCE: Aluminium-Zentrale e.V.

Details may not add to totals due to rounding.

GREECE

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	na	160.5	144.8	148.0	139.6	164.2	155.4	143.3	132.9	100.0	91.5
3. +Imports of ingot	0.3	0.3	5.0	4.0	1.0	1.9	1.9	3.2	0.6	0.6	1.2
4. +Imports of mill products	3.9	3.3	4.2	2.8	2.0	2.4	2.5	3.5	2.1	2.0	2.8
6. −Exports of aluminum ingot	81.6	93.9	85.4	98.0	98.2	112.2	115.5	111.3	95.9	66.1	74.6
7. −Exports of mill products	33.1	29.2	26.7	19.8	10.1	17.7	12.8	8.2	9.3	10.3	6.4
8. =Apparent aluminum consumption	na	41.0	41.9	37.0	44.3	38.6	31.5	30.5	34.4	26.1	14.4
13. −Mid-year population (mill.)	9.4	9.4	9.3	9.2	9.1	9.0	9.0	8.9	8.9	8.8	8.8
14. =Per capita consumption (lbs.) (1)	na	8.7	9.0	8.1	9.8r	8.6	7.0	6.9	7.7	5.9	3.3

NOTES:
(1) Without inventory change
na Not Available
SOURCE: National Statistical Service of Greece

ICELAND

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	78.3	81.3	77.9	71.9	64.9	75.4	78.4	50.1	45.2	42.6	10.6
3. +Imports of ingot	—	—	—	—	—	—	—	—	—	—	3.0
4. +Imports of mill products	2.0	3.2	2.1	2.0	1.7	2.3	1.7	2.1	1.0	0.8	1.0
6. −Exports of aluminum ingot	85.1	83.6	81.8	85.5	48.1	69.5	87.9	65.3	18.4	36.8	11.6
8. =Apparent aluminum consumption	−4.9	−1.0	−1.8	−11.7	18.5	8.2	−7.8	−13.1	27.8	6.6	3.0
9. +Beginning inventory	12.5	13.2	17.1	30.8	14.0	8.1	17.5	34.6	7.8	2.0	0.0
10. −Ending inventory	5.3	12.5	13.2	17.1	30.8	14.0	8.0	17.5	34.6	7.8	2.0
11. ±Inventory change	−7.2	−0.8	−3.9	−13.7	+16.8	+5.9	−9.5	−17.1	+26.8	+5.8	+2.0
12. =Aluminum consumption	2.3	1.8	2.1	2.0	1.7	2.3	1.7	4.0	1.0	0.8	1.0
13. −Mid-year population (mill.) (1)	0.226	0.223	0.222	0.221	0.219	0.216	0.213	0.210	0.207	0.205	0.203
14. =Per capita consumption (lbs.) (2)	na	8.9	na	na	84.5	75.9	na	na	268.6	64.4	29.6
15. =Per capita consumption (lbs.) (3)	20.4	15.9	18.9	18.0	15.5	21.3	16.0	38.1	9.7	7.8	9.9

NOTES:
(1) Because of its small population, shown in fine detail.
(2) Without inventory change
(3) Adjusted for inventory change
na Not applicable
SOURCE: Icelandic Aluminium Co. Ltd.

Per Capita Aluminum Consumption—Continued

Thousands of short tons

INDONESIA

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
3. +Imports of ingot	16.7	13.5	12.9	9.3	7.7	5.2	2.9	0.3	0.1	0.2	—
4. +Imports of mill products	27.9	24.0	24.2	23.0	22.3	22.2	23.8	14.3	14.5	20.6	9.5
5. +Recovery of secondary	—	*	*	*	162.6	69.5	153.2	—	—	—	—
7. −Exports of mill products	0.2	0.1	0.2	0.2	—	—	—	—	—	—	—
12. =Apparent aluminum consumption	44.3	37.5	36.7	32.0	192.6	96.9	179.9	14.6	14.6	20.8	9.5
13. ÷Mid-year population	138.0	135.3	132.6	130.2	132.0	129.0	126.0	123.0	120.0	117.0	115.0
14. =Per capita consumption	0.6	0.6	0.6	0.5	2.9	1.5	2.9	0.2	0.2	0.4	0.2

NOTES:
(1) Without inventory change
na Not available
SOURCE: Department of Mines and Energy, Indonesia

** Less than 50 tons*

IRAN

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	na	na	23.2	33.8	45.3	55.9	35.9	7.2	—	—	—
3. +Imports of ingot	na	na	14.3	11.0	—	—	—	7.9	9.0	3.8	8.4
4. +Imports of mill products	na	na	18.7	20.9	3.0	9.9	17.2	9.8	14.1	21.0	14.2
5. +Recovery of secondary	na	na	5.5	7.2	17.0	7.1	1.1	1.1	1.1	1.1	1.1
6. −Exports of ingot	na	na	—	—	14.0	19.8	19.1	—	—	—	—
7. −Exports of mill products	na	na	—	—	—	0.2	—	—	—	—	—
8. =Apparent aluminum consumption	na	na	61.8	72.8	51.3	52.9	35.0	26.0	24.1	26.0	23.7
9. +Beginning inventory	na	na	13.9	11.7	9.4	6.2	4.8	—	—	—	—
10. −Ending inventory	na	na	3.3	13.9	10.6	13.2	5.7	—	—	—	—
11. ±Inventory change	na	na	10.5	2.2	+1.2	+7.0	+1.0	—	—	—	—
12. =Aluminum consumption	na	na	72.4	70.7	50.1	45.9	34.1	—	—	—	—
13. −Mid-year population (mill.)	na	na	33.5	34.0	33.5	32.5	31.6	30.9	30.0	29.3	28.4
14. =Per capita consumption (lbs.) (1)	na	na	3.7	4.3	3.1	3.2	2.2	1.7	1.6	1.8	1.7
15. =Per capita consumption (lbs.) (2)	na	na	4.3	4.2	3.0	2.8	2.0	—	—	—	—

NOTES:
(1) Without inventory change
(2) Adjusted for inventory change
SOURCE: Industrial Development and Renovation Organization of Iran

IRELAND

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
3. +Imports (1)	32.8	28.1	22.8	22.9	15.4	21.4	16.3	12.0	10.9	13.1	16.3
6. −Exports (1)	14.3	10.6	10.4	8.3	8.8	5.0	4.2	6.4	4.2	6.0	9.4
8. =Apparent aluminum consumption (2)	18.5	17.5	12.5	14.6	6.6	16.4	12.1	5.6	6.7	7.1	6.9
13. −Mid-year population (mill.)	3.4	3.3	3.2	3.2	3.1	3.1	3.1	3.0	3.0	3.0	2.9
14. =Per capita consumption (lbs.) (2)	10.9	10.6	7.9	9.1	4.3	10.6	7.8	3.4	4.5	4.7	4.8

NOTES:
(1) Includes ingot and mill products
(2) Without inventory change
na Not available
r Revised
SOURCE: Central Statistics Office, Dublin

Detail may not add to totals due to rounding.

ISRAEL

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
3. + Imports of ingot	na	na	18.7	16.0	na	27.6	14.2	13.2	15.9	13.6	12.0
4. + Imports of mill products	na	na	12.1	15.1	na	3.6	3.0	4.8	5.1	6.5	5.6
5. + Recovery of secondary	na	na	1.1	1.1	na	0.3	0.4	0.2	—	—	—
6. − Exports of ingot	na	na	4.4	5.7	na	—	—	—	—	—	—
7. − Exports of mill products	na	na	10.5	8.8	na	2.8	2.1	2.7	2.5	1.9	1.3
8. = Apparent aluminum consumption	na	na	17.1	17.6	na	28.7	15.5	15.5	17.5	18.2	16.3
13. = Mid-year population (mill.)	na	na	3.6	3.6	na	3.4	3.3	3.2	3.1	3.0	2.9
14. = Per capita consumption (lbs.) (1)	na	na	9.4	9.9	na	16.9	9.4	9.7	11.3	12.1	11.2

NOTES:
(1) Without inventory change.
na Not available.
SOURCE: The Israel Aluminum Association.

ITALY

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. + Primary aluminum production	296.6	298.5	286.7	227.6	209.6	233.8	203.1	164.8	150.4	161.7	158.3
3. + Imports of ingot	260.8	210.0	215.5	216.5	122.4	282.2	202.4	191.0	146.8	184.1	147.0
4. + Imports of mill products	99.4	66.9	65.0	54.4	39.1	75.6	50.5	36.9	31.4	40.2	31.9
5. + Recovery of secondary	284.4	262.3	261.2	227.0	175.3	225.9	210.6	174.2	156.5	163.1	141.1
6. − Exports of ingot	24.7	76.4	26.7	10.4	36.7	25.7	15.5	13.8	14.2	5.3	8.3
7. − Exports of mill products	121.1	116.5	95.7	91.7	64.7	66.0	60.3	62.6	49.7	49.1	58.3
8. = Apparent aluminum consumption	795.4	644.8	706.1	623.4	445.0	725.8	590.8	490.6	421.2	494.8	411.7
11. + Inventory change	+11.4	−41.9	+35.7	+10.6	+20.0	+78.2	+14.0	+11.4	−3.6	+40.7	+17.1
12. = Aluminum consumption	806.8	686.7	670.4	612.8	425.0	647.6	576.8	479.2	424.8	454.1	394.6
13. = Mid-year population (mill.)	56.9	56.7	56.4	56.2	55.8	55.4	54.9	54.2	53.8	53.5	53.2
14. = Per capita consumption (lbs.) (1)	28.0	22.7	25.0	22.2	15.9	26.2	21.5	18.1	15.7	18.5	15.5
15. = Per capita consumption (lbs.) (2)	28.4	24.2	23.8	21.8	15.2	23.3	21.0	17.7	15.8	17.0	14.8

NOTES:
(1) Without inventory change.
(2) Adjusted for inventory change.
SOURCE: Associazione Nazionale Industrie Metalli Non Ferrosi.

JAPAN

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. + Primary aluminum production	1,118.0	1,170.4	1,314.9	1,017.7	1,120.1	1,238.6	1,215.5	1,118.7	984.6	807.8	627.0
2. ± Stockpile adjustment	—	24.3	10.5	10.5							
3. + Imports of ingot	825.0	815.9	588.4	474.1	417.1	527.7	524.3	357.9	248.7	284.7	346.1
4. + Imports of mill products	35.4	29.6	23.9	22.9	24.1	47.1	29.6	8.5	4.4	3.3	5.1
5. + Recovery of secondary	524.8	545.0	431.8	326.5	226.2	253.4	286.4	283.2	255.5	264.3	233.1
6. − Exports of ingot	8.8	60.2	109.8	76.8	92.1	38.4	3.2	9.6	25.1	6.1	3.3
7. − Exports of mill products	108.5	163.7r	95.5	73.0	56.6	36.4	32.9	40.1	52.4	45.0	44.4
8. = Apparent aluminum consumption	2,385.9	2,359.3r	2,164.4	1,702.0	1,638.8	1,992.0	2,019.7	1,718.6	1,415.6	1,309.1	1,163.6
9. + Beginning inventory	149.8	284.6	134.6	442.4	292.6	94.1	127.5	124.0	61.2	34.3	27.4
10. − Ending inventory	86.0	149.8	284.6	134.6	442.4	296.2	94.2	127.5	124.0	61.2	34.3
11. ± Inventory change	−63.8	−134.8	+150.0	−307.8	+146.2	+202.1	−33.3	+3.5	+62.9	+26.9	+6.9
12. = Aluminum consumption	2,449.7	2,494.1r	2,014.4	2,009.8	1,492.6	1,789.9	2,053.0	1,715.2	1,352.8	1,282.2	1,156.7
13. − Mid-year population (mill.)	116.1	114.9r	113.9	112.4	111.0	110.1	108.9	106.0	104.7	103.4	102.3
14. = Per capita consumption (lbs.) (1)	41.1	41.1r	38.0	30.3	29.5	36.2	37.1	32.4	27.1	25.3	22.7
15. = Per capita consumption (lbs.) (2)	42.2	43.4r	35.4	35.8	26.9	32.5	37.7	32.4	25.8	24.8	22.6

NOTES:
(1) Without inventory change.
(2) Adjusted for inventory change.
r—Revised.
SOURCE: Japan Aluminium Federation.

Per Capita Aluminum Consumption—Continued

MEXICO

Thousands of short tons

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	47.6	47.5	47.1	46.7	44.0	45.4	43.2	43.5	44.0	37.4	35.7
3. +Imports of aluminum ingot	61.8	43.4r	9.3	17.2	13.1	28.8	15.8	0.9	0.1	0.2	0.3
4. +Imports of mill products	40.1	32.2r	18.0	33.9	36.6	24.8	35.0	34.0	16.3	33.0	27.7
5. +Recovery of secondary	16.4	13.5r	8.2	10.8	10.3	10.9	10.3	8.6	6.6	7.8	7.0
6. −Exports of aluminum ingot	—	—	0.1	0.1	0.1	0.2	0.4	1.3	2.8	0.7	0.3
7. −Exports of mill products	3.4	4.1r	2.7	1.7	1.2	3.0	1.8	0.9	1.0	0.5	0.7
8. =Apparent aluminum consumption	162.6	132.7r	79.9	106.7	102.7	106.6	102.1	84.7	63.2	77.2	69.6
9. +Beginning inventory	2.0	2.8	4.8	2.2	1.3	1.6	3.8	8.5	7.2	6.2	4.4
10. −Ending inventory	1.7	2.0	2.8	4.8	2.2	1.3	1.6	3.8	8.5	7.2	6.2
11. =Inventory change	−0.3	−0.8	−2.0	+2.6	+0.9	−0.3	−2.2	−4.7	+1.3	+1.0	+1.8
12. =Aluminum consumption	162.9	133.5r	81.8	104.1	101.9	107.0	104.3	89.4	62.0	76.2	67.8
13. ÷Mid-year population (mill.)	67.0	64.7	62.5	60.4	58.3	56.2	54.3	52.4	50.6	48.0	47.2
14. =Per capita consumption (lbs.) (1)	4.9	4.1r	2.6	3.5	3.5	3.8	3.8	3.2	2.5	3.2	2.9
15. =Per capita consumption (lbs.) (2)	4.9	4.1r	2.6	3.4	3.5	3.8	3.8	3.4	2.5	3.2	2.9

NOTES:
(1) Without inventory change
(2) Adjusted for inventory change

SOURCE: Instituto del Aluminio, A.C.

THE NETHERLANDS

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	281.7	285.8r	261.1	274.4	284.0	272.8	200.0	179.3	128.3	82.6	75.7
3. +Imports of ingot	185.0	160.4	178.9	178.7	133.8	175.0	106.7	71.8	51.5	50.0	47.7
4. +Imports of mill products	103.2	91.5r	101.1	104.8	64.3	80.8	82.8	61.8	57.8	58.9	60.9
5. +Recovery of secondary	51.4	48.5	45.9	42.4	37.8	na	na	3.7	8.2	5.6	6.1
6. −Exports of aluminum ingot	396.2	324.5	348.5	320.0	291.2	324.1	213.5	169.5	97.8	70.6	70.7
7. −Exports of mill products	88.3	74.6r	84.5	88.6	60.2	74.0	77.4	57.9	43.0	44.3	41.3
8. =Apparent aluminum consumption	136.8	187.0r	153.9	191.7	168.4	130.5	98.6	89.2	105.0	82.2	78.5
9. +Beginning inventory (3)	48.2	39.0	59.7	70.9	23.3	29.4	32.8	—	—	—	—
10. −Ending inventory (3)	8.5	66.1r	38.9	62.2	65.7	43.5	31.5	—	—	—	—
11. =Inventory change	−39.8	+27.2r	−20.8	−8.7	+42.4	+14.1	−1.3	—	—	—	—
12. =Aluminum consumption	176.6	159.8r	174.7	200.4	126.0	116.4	99.9	—	—	—	—
13. ÷Mid-year population (mill.)	14.0	13.9	13.9	13.8	13.7	13.6	13.5	13.3	13.1	13.0	12.9
14. =Per capita consumption (lbs.) (1)	19.5	26.9r	22.0	27.8	24.7	19.2	14.6	13.4	16.0	12.6	12.2
15. =Per capita consumption (lbs.) (2)	25.2	23.0r	25.1	29.1	18.3	17.1	14.8	—	—	—	—

NOTES:
(1) Without inventory change
(2) Adjusted for inventory change
(3) Primary Metal only

na Not available
r—Revised

SOURCE: Vereniging Nederlands Aluminium Instituut

NEW ZEALAND

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	169.9	165.1	158.3	152.7	119.0	120.2	127.5	95.8	24.5	—	—
3. +Imports of ingot	—	—	—	—	1.4	1.3	2.9	8.6	18.7	23.4	17.3
4. +Imports of mill products	4.3	3.1r	3.7	2.3	4.4	9.7	5.7	2.4	2.1	2.1	1.9
5. +Recovery of secondary (e)	2.2	2.0	2.0	1.7	1.3	2.3	2.1	1.9	1.7	1.4	1.3
6. −Exports of ingot	130.6	146.4	133.0	119.2	106.2	110.6	95.7	63.5	14.9	—	—
7. −Exports of mill products	3.6	3.4r	2.6	0.6	0.2	0.1	0.2	0.1	0.1	—	—
8. =Apparent aluminum consumption	41.9	20.4r	28.3	36.9	19.8	22.8	42.3	45.1	32.0	26.9	20.5
11. ±Inventory change	+12.1	−6.4	+0.7	+4.7	−3.5	−18.5	+8.2	+25.9	+9.1	—	—
12. =Aluminum consumption	29.8	26.8r	27.7	32.2	23.4	41.3	34.2	19.2	22.8	—	—
13. ÷Mid-year population (mill.)	3.14	3.15r	3.13	3.12	3.09	3.03	2.97	2.91	2.86	2.82	2.78
14. =Per capita consumption (lbs.) (1)	26.7	13.0r	18.1	23.7	12.8	15.1	28.5	31.0	22.4	19.1	14.8
15. =Per capita consumption (lbs.) (2)	19.0	17.0r	17.6	20.6	15.1	27.3	23.0	13.2	16.0	—	—

NOTES:
(1) Without inventory change
(2) Adjusted for inventory change
e—Estimated

SOURCE: Comalco Limited, New Zealand Aluminum Smelters, and New Zealand Dept. of Statistics

NICARAGUA

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
3. +Imports of ingot	na	0.6	1.3	0.6	0.5	0.4	0.4	0.2	0.2	0.1	0.1
4. +Imports of mill products	na	1.0	1.4	1.0	1.2	1.5	0.8	0.9	0.9	1.2	0.9
6. −Exports of mill products	na	0.9	1.1	0.3	0.1	*	*	0.1	*	0.1	0.1
8. =Apparent aluminum consumption	na	0.7	1.5	1.2	1.5	1.9	1.1	1.0	1.1	1.2	1.0
13. +Mid-year population (millions)	na	2.4	2.3	2.2	2.2	2.1	2.0	2.0	1.9	1.8	1.8
14. =Per capita consumption (1)	na	0.5	1.3	1.0	1.4	1.8	1.1	1.0	1.2	1.3	1.1

NOTES:
(1) Without inventory change
(2) Adjusted for inventory change

na Not available
** Less than .05 thousand short tons*

SOURCE: Ministerio de Economia Industria y Comercio, Managua

NORWAY

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	742.4	724.1	702.1	684.3	655.9	714.8	681.1	600.2	585.5	584.5	556.6
3. +Imports of ingot	9.8	8.8	9.4	35.0	21.3	30.7	35.7	39.2	37.1	26.1	28.5
4. +Imports of mill products	33.0	37.9	44.5	31.2	29.9	32.7	19.1	16.5	17.5	14.1	17.1
5. +Recovery of secondary	4.0	4.4	4.4	5.5	7.7	8.6	8.2	6.7	4.4	4.6	4.5
6. −Exports of ingot	623.1	694.6	612.1	619.1	497.8	611.1	634.9	591.8	457.8	473.8	529.4
7. −Exports of mill products	80.1	67.3	52.2	59.6	47.0	50.1	67.0	56.2	45.9	43.0	32.1
8. =Apparent aluminum consumption	85.9	13.4	96.2	77.3	170.0	125.6	42.2	14.7	141.0	112.5	45.2
11. +Inventory change	−20.4	−78.7	−5.7	−34.2	+82.6	+22.3	−33.4	−58.4	+76.4	+52.0	−20.4
12. =Aluminum consumption	106.3	92.1	101.9	111.5	87.4	103.3	75.6	73.1	64.6	60.5	65.6
13. ÷Mid-year population (mill.)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.9	3.9	3.9	3.9
14. =Per capita consumption (lbs.) (1)	43.0	6.8	48.1	38.7	85.0	62.8	21.1	7.5	72.3	57.7	23.2
15. =Per capita consumption (lbs.) (2)	53.1	46.1	50.9	55.8	43.6	51.6	37.8	37.5	33.1	31.0	33.6

NOTES:
(1) Without inventory change
(2) Adjusted for inventory change

SOURCE: SkanAluminium

PANAMA

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
3. +Imports of ingot	1.5	1.0	1.1	1.8	1.7	2.5	2.2	1.8	1.5	1.4	1.1
4. +Imports of mill products	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.9
5. +Recovery of secondary	0.4	0.3	0.6	0.4	0.3	0.4	0.4	0.3	0.3	0.3	0.1
7. −Exports of mill products	0.3	0.2	0.4	0.3	0.2	0.3	0.3	0.3	0.2	0.3	0.2
8. =Apparent aluminum consumption	1.9	1.4	1.7	2.2	2.1	3.0	2.7	2.2	2.0	1.8	1.8
13. ÷Mid-year population (mill.)	1.9	1.9	1.8	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.4
14. =Per capita consumption (lbs.) (1)	2.0	1.5	1.8r	2.6	2.6	3.8	3.4	2.9	2.7	2.4	2.6

NOTES:
(1) Without inventory change

SOURCE: Aluminio de Panama, S.A.

Details may not add to totals due to rounding.

Per Capita Aluminum Consumption—Continued

Thousands of short tons

REPUBLIC of the PHILIPPINES

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
3. +Imports of ingot	21.3	9.6	11.5	12.6	6.8	13.9	12.0	10.0	8.4	7.8	18.3
4. +Imports of mill products	17.7	13.7	11.2	9.1	4.9	8.8	6.8	3.9	4.3	3.2	1.6
6. −Exports of ingot	1.2	3.8	2.6	1.9	2.0	4.7	3.1	1.4	1.2	0.5	0.4
7. −Exports of mill products	3.2	19.5	20.2	19.8	9.7	18.1	15.7	12.6	11.5	10.5	19.5
8. =Apparent aluminum consumption	34.6	45.9	44.6	43.4	42.2	41.3	40.1	39.0	37.9	36.9	35.7
13. ÷Mid-year population (mill.)	46.6	0.8	0.9	0.9	0.5	0.9	0.8	0.6	0.6	0.6	1.1
14. =Per capita consumption (lbs.) (1)	1.5	—	—	—	—	—	—	—	—	—	—

NOTES:
(1) Without inventory change

SOURCE: National Census and Statistics Office, Philippines

PORTUGAL

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
3. +Imports of ingot	17.3	17.5r	9.3	6.3	2.9	2.9	1.8	1.7	1.3	1.3	0.8
4. +Imports of mill products	21.3	23.1	29.1	22.0	13.3	35.0	23.7	25.6	20.2	14.1	11.4
5. +Recovery of secondary	na	3.4	2.3	2.2	2.2	2.3	1.8	1.6	1.3	na	na
6. −Exports of aluminum ingot	0.8	0.1	0.1	—	(a)	(a)	—	—	—	(a)	(a)
7. −Exports of mill products	11.3	4.7r	6.9	3.3	5.6	4.1	4.6	2.9	1.2	1.2	1.4
8. =Apparent aluminum consumption	na	39.3	33.7	27.2	12.8	36.1	22.7	26.0	21.6	14.2	10.8
13. ÷Mid-year population (mill.)	na	9.8	9.7	9.7	9.4	9.1	9.0	9.0	9.0	9.0	9.1
14. =Per capita consumption (lbs.) (1)	na	8.8	6.9	5.6	2.7	7.9	5.1	5.8	4.8	3.1	2.4

**Including the Azores and Madeira*

NOTES
(1) Without inventory change
(a) Less than .05 thousand short tons
na Not available

SOURCE: National Statistical Institute, Lisbon

SOUTH AFRICA

	1979	1978r	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	93.8	87.6	85.3	85.4	82.8	80.0	59.9	49.6	22.0	—	—
3. +Imports of ingot	0.6	0.7	0.4	0.7	1.4	0.9	1.0	1.3	24.8	54.1	45.3
4. +Imports of mill products	5.0	7.2r	6.5	10.7	13.2	12.7	8.0	8.6	11.8	11.5	7.1
5. +Recovery of secondary	11.5	11.2	10.6	5.3	6.1	6.7	6.0	5.6	5.3	4.7	3.5
6. −Exports of ingot	34.4	42.4	32.1	17.0	21.1	16.1	5.7	0.3	0.1	—	—
7. −Exports of mill products	1.4	2.3	2.8	3.3	2.6	3.0	2.1	2.2	2.3	2.9	2.4
8. =Apparent aluminum consumption	75.0	62.0r	68.0	81.8	79.8	81.2	67.0	62.6	61.5	67.5	53.5
11. ±Inventory change	+0.9	−7.9r	−1.1	+4.1	+0.7	+0.1	−1.8	−2.6	−0.3	—	−1.8
12. =Aluminum consumption	74.1	69.9r	69.1	77.7	79.1	81.1	68.8	65.3	61.8	67.5	55.2
13. ÷Mid-year population (mill.)	28.2	27.3	26.7	26.1	25.5	24.9	24.3	23.7	23.0	22.5	21.9
14. =Per capita consumption (lbs.) (1)	5.3	4.6	5.1	6.3	6.3	6.5	5.5	5.3	5.3	6.0	4.9
15. =Per capita consumption (lbs.) (2)	5.3	5.1	5.2	6.0	6.2	6.5	5.7	5.5	5.4	6.0	5.0

NOTES
(1) Without inventory change
(2) Adjusted for inventory change

SOURCE: Non-Ferrous Metals Industries Association and Hulletts Aluminium Ltd.

Detail may not add to totals due to rounding.

SPAIN

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	286.5	233.9	233.5	231.8	233.1	210.5	176.4	159.8	140.0	132.2	117.2
3. +Imports of aluminum ingot	7.9	41.8	40.6	15.9	31.5	30.2	28.1	34.2	32.0	15.4	28.7
4. +Imports of mill products	22.4	17.5	27.9	15.1	14.6	19.7	13.8	11.5	6.6	5.5	5.5
6. −Exports of aluminum ingot	47.3	6.4	9.9	11.9	2.6	2.8	1.3	1.4	7.4	2.8	1.7
7. −Exports of mill products	53.1	30.9	33.1	31.7	31.5	24.3	22.4	24.7	28.4	25.9	25.4
8. =Apparent aluminum consumption	216.4	256.0	258.9	219.1	245.0	233.5	194.6	179.3	142.7	124.4	124.3
11. +Inventory change	−20.5	+26.5	+3.0	−22.0	+38.6	−7.7	−16.5	+9.9	+16.0	na	na
12. =Aluminum consumption	236.9	229.5	256.0	241.2	206.5	241.2	211.1	169.4	126.8	na	na
13. ÷Mid-year population (mill.)	37.3	36.9	36.4	36.0	35.7	35.0	34.5	34.0	33.5	33.5	33.5
14. =Per capita consumption (lbs.) (1)	11.6	13.9	14.2	12.2	13.7	13.3	11.3	10.5	8.5	7.4	7.4
15. =Per capita consumption (lbs.) (2)	12.7	12.4	14.1	13.4	11.6	13.8	12.2	10.0	7.6	na	na

NOTES:
(1) Without inventory change
(2) Adjusted for inventory change
na Not available

SOURCE: Aluminio De Galicia, S.A.

SWEDEN

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	90.4	90.4	91.0	89.7	85.3	90.9	91.3	85.5	83.2	73.1	73.6
3. +Imports of ingot	35.4	28.8	39.2	41.3	37.1	49.6	39.1	31.6	32.3	40.0	33.2
4. +Imports of mill products	72.1	60.7	65.4	70.5	60.6	59.9	55.4	44.9	39.0	43.2	39.0
5. +Recovery of secondary	29.5	30.6	29.9	35.7	37.9	39.5	34.5	29.9	25.9	30.8	28.4
6. −Exports of aluminum ingot	15.8	34.3	25.9	10.0	6.3	10.8	18.2	12.7	21.2	15.7	13.2
7. −Exports of mill products	63.7	59.1	51.1	46.8	33.6	52.8	45.7	36.6	32.6	30.8	30.0
8. =Apparent aluminum consumption	147.9	117.2	148.5	180.4	181.1	176.3	156.4	142.6	126.8	140.7	131.1
11. =Inventory change	−7.2	−22.7	−0.6	+10.1	+17.7	+2.2	−7.6	+4.7	+4.0	+8.8	+1.4
12. =Aluminum consumption	155.1	139.9	149.0	170.3	163.4	174.1	164.0	137.9	122.7	131.8	129.6
13. ÷Mid-year population (mill.)	8.3	8.3	8.3	8.2	8.2	8.2	8.1	8.1	8.1	8.1	8.0
14. =Per capita consumption (lbs.) (1)	35.6	28.2	35.8	44.0	44.2	43.0	38.6	35.2	31.3	34.7	32.8
15. =Per capita consumption (lbs.) (2)	37.4	33.7	35.9	41.5	39.8	42.5	40.5	34.0	30.3	32.6	32.4

NOTES:
Revised to reflect inventory changes and other data revisions.
(1) Without inventory change
(2) Adjusted for inventory change

SOURCE: National Central Bureau of Statistics, Sweden

SWITZERLAND

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	91.5	87.7	88.0	86.2	86.9	95.9	94.1	92.2	103.6	100.9	85.0
3. +Imports of ingot	43.7	37.4	43.2	34.3	17.7	45.8	32.3	27.4	6.8	24.4	21.1
4. +Imports of mill products	47.0	39.8	34.5	27.0	18.5	28.9	23.9	13.3	11.6	11.0	10.5
5. +Recovery of secondary	21.2	19.7	22.2	19.6	16.4	19.0	18.3	15.4	12.7	16.5	18.5
6. −Exports of ingot	29.1	19.4	18.1	21.0	12.9	12.6	26.4	23.4	18.7	15.9	20.1
7. −Exports of mill products	84.4	74.1	77.6	64.7	50.0	56.6	49.4	39.7	33.4	31.5	29.9
8. =Apparent aluminum consumption	89.9	91.1	92.2	81.4	76.6	120.4	92.8	85.3	82.6	105.9	85.1
11. ÷Inventory change	−7.4	−1.1	+2.1	−6.5	+5.5	+8.8	−6.6	−4.1	+11.0	+11.0	—
12. =Aluminum consumption	97.2	92.2	90.1	87.9	71.1	111.6	99.4	89.4	71.6	94.9	—
13. ÷Mid-year population (mill.)	6.2	6.2	6.3	6.3	6.4	6.4	6.4	6.4	6.3	6.3	6.2
14. =Per capita consumption (lbs.) (1)	29.0	29.4	28.3	25.8	23.9	37.7	29.0	26.7	26.2	33.6	27.5
15. =Per capita consumption (lbs.) (2)	31.4	29.8	28.6	27.9	22.2	34.9	31.1	27.9	22.7	30.1	—

NOTES:
(1) Without inventory change
(2) Adjusted for inventory change

SOURCE: Swiss Aluminium Ltd. and European Primary Aluminium Assn.

Detail may not add to totals due to rounding.

Per Capita Aluminum Consumption—Continued

Thousands of short tons

TAIWAN, REPUBLIC OF CHINA

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	61.9	55.6	32.8	28.1	30.9	34.5	38.7	35.4	29.2	29.8	24.4
3. +Imports of ingot	58.3	52.5	57.9	40.1	12.7	20.2	16.2	6.9	5.3	10.5	3.6
4. +Imports of mill products	12.5	8.0	6.4	6.8	2.2	5.6	2.9	2.0	1.1	0.8	0.7
5. +Recovery of secondary(1)	15.2	10.5	9.6	6.8	6.5	9.0	14.6	4.4	3.5	3.4	1.4
6. −Exports of ingot	*	0.4	0.1	0.3	1.6	5.0	0.1	0.6	—	1.1	0.2
7. −Exports of mill products	7.7	8.2	4.0	4.0	4.1	3.2	6.3	10.6	5.7	6.7	6.9
8. =Apparent aluminum consumption	140.2	117.9	102.6	77.5	46.6	61.1	65.4	37.5	33.4	36.7	23.0
11. ±Inventory change	+0.1	+8.6	+15.3	+6.6	−8.4	+9.1	+5.2	+1.0	+0.6	+1.5	−0.3
12. =Aluminum consumption	140.1	109.3	87.3	70.9	55.0	52.0	60.2	36.5	32.8	35.2	23.3
13. ÷Mid-year population (mill.)	17.5	17.0	16.7	16.3	16.0	15.7	15.4	15.1	14.8	14.5	14.0
14. =Per capita consumption (lbs.) (2)	16.0	13.9	12.3	9.5	5.8	7.8	8.5	5.0	4.5	5.1	3.3
15. =Per capita consumption (lbs.) (3)	16.0	12.8	10.5	8.7	6.9	6.6	7.8	4.8	4.4	4.9	3.3

NOTES:
(1) Recovery of imported scrap only
(2) Without inventory change
(3) Adjusted for inventory change
** Less than 50 tons.*

SOURCE: Taiwan Aluminium Corporation

TURKEY

	1979	1978	1977r	1976r	1975r	1974r	1973r	1972r	1971r	1970r	1969r
1. + Primary Production	37.6	44.9	35.0	41.0	18.0	—	—	—	—	—	—
3. + Imports of Ingot	14.4	12.4	45.1	29.6	57.0	55.4	44.5	34.8	30.5	15.0	14.6
4. + Imports of Mill Prods.	8.1	1.9	3.2	4.1	3.2	2.8	7.4	11.9	7.8	10.3	17.6
6. — Exports of Ingot	—	—	—	—	—	—	—	—	—	—	—
7. — Exports of Mill Prods.	6.4	6.8	10.9	9.6	3.5	24.4	4.6	0.7	0.2	*	*
8. = Apparent consumption	53.7	52.4	72.4	65.1	74.7	33.8	47.3	46.0	38.1	25.3	32.2
13. ÷ Midyear Population	44.2	43.1	42.1	41.0	40.0	39.0	38.1	37.1	36.2	35.3	34.4
14. = Per Capita Consumption (2)	2.4	2.4	3.4	3.2	3.7	1.7	2.5	2.5	2.1	1.4	1.9

NOTES:
(2) Without inventory change
na Not applicable
** Less than 50 tons.*
SOURCE: State Institute of Statistics, Ankara, Turkey

UNITED KINGDOM

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. +Primary aluminum production	[illegible].2	381.6	384.6	368.6	339.8	323.1	277.3	188.9	131.2	43.7	37.3
3. +Imports of ingot	193.4	194.7	209.7	236.8	176.6	309.4	316.5	294.2	297.3	417.9	394.3
4. +Imports of mill products	170.9	174.0	125.0	123.6	82.7	114.3	101.5	93.7	86.3	83.9	53.6
5. +Recovery of secondary	183.6	201.4	208.9	210.2	184.2	208.2	208.7	203.7	199.2	222.0	230.9
6. −Exports of ingot	225.6	176.1	159.6	178.6	96.7	96.4	89.1	93.7	45.9	28.7	23.9
7. −Exports of mill products	78.5	66.0	69.9	65.7	59.5	76.1	62.6	42.9	38.7	49.2	49.3
8. =Apparent aluminum consumption	640.1	709.6	698.6	694.9	627.1	782.5	752.3	643.9	629.4	689.6	642.9
11. ±Inventory change	+55.0	−29.1	+20.2	+1.4	+17.7	+12.6	−16.6	−33.1	+15.1	+13.3	−14.4
12. =Aluminum consumption	585.0	738.7	678.5	693.5	609.4	769.9	768.9	677.0	614.3	676.3	657.3
13. ÷Mid-year population (mill.)	55.9	55.8	55.9	56.0	56.1	56.2	55.9	55.8	55.6	55.4	55.3
14. =Per capita consumption (lbs.) (1)	22.9	25.4	25.0	24.8	22.4	27.8	26.9	23.1	22.6	24.9	23.3
15. =Per capita consumption (lbs.) (2)	20.9	26.5	24.3	24.8	21.7	27.4	27.5	24.3	22.1	24.4	23.8

NOTES:
(1) Without inventory change
(2) Adjusted for inventory change

SOURCE: Aluminium Federation Ltd.

Detail may not add to totals due to rounding

UNITED STATES of AMERICA

	1979	1978r	1977r	1976r	1975r	1974r	1973r	1972r	1971r	1970r	1969r
1. + Primary aluminum production	5,023.1	4,803.8	4,538.7	4,251.4	3,879.1	4,903.5	4,529.1	4,122.4	3,925.2	3,976.2	3,793.1
2. ± Govt. Stockpile adjustment	—	—	—	9.2	2.5	510.5	730.2	6.1	*	24.5	139.5
3. + Imports of Ingot	570.8	757.8	670.3	575.4	434.1	508.9	508.0	659.4	554.7	350.2	468.7
4. + Imports of Mill Products	213.2	242.2r	82.4r	94.5r	65.1r	54.9r	69.1r	94.5r	86.4r	96.9r	64.3r
5. + Recovery of secondary	1,777.0	1,673.0r	1,605.0	1,471.0	1,236.0	1,282.0	1,230.0	1,126.0	1,106.6	1,033.1	1,176.0
6. — Exports of ingot	200.7	126.6	97.8	152.4	185.9	207.8	229.6	108.3	112.3	408.5	344.4
7. — Exports of Mill Products	310.8	247.1r	258.3r	257.9r	216.6r	255.7r	233.0r	167.7r	166.5r	167.6r	155.3r
8. = Apparent aluminum consumption	7,072.6	7,103.1r	6,540.3r	5,991.2r	5,214.3r	6,796.3r	6,603.8r	5,732.4r	5,394.1r	4,904.8r	5,141.9r
9. + Beginning inventory	2,747.0	2,853.2	2,850.4	2,999.4	2,578.0	2,183.0	2,430.6	2,513.1	2,193.5	1,892.4	1,862.4
10. — Ending inventory	2,556.0	2,747.0	2,853.2	2,850.4	2,999.4	2,578.0	2,183.0	2,430.6	2,513.1	2,193.5	1,892.4
11. = Inventory change	−191.1	−106.2	+2.8	−14.9	+421.4	+395.0	−247.6	+82.5	+319.6	+301.1	+30.0
12. = Aluminum consumption	7,263.6	7,209.3r	6,537.5r	6,006.1r	4,792.9r	6,401.3r	6,851.4r	5,814.9r	5,074.5r	4,603.7r	5,111.9r
13. ÷ Midyear population (millions)	220.6	218.7r	216.8	215.1	213.6	211.9	210.4	208.8	207.0	204.9	202.7
14. = Per capita consumption (1)	64.1	65.0r	60.3	55.7r	48.8	64.1	62.8r	54.9	52.1	47.9r	50.7
15. = Per capita consumption (2)	65.9	65.9r	60.3	55.8	44.9r	60.4r	65.1	55.7r	49.0	44.9	50.4

NOTES:
(1) Without inventory change
(2) Adjusted for inventory change
** Removal of less than 50 short tons*
r—Revised

SOURCE: The Aluminum Asscociation, Inc.

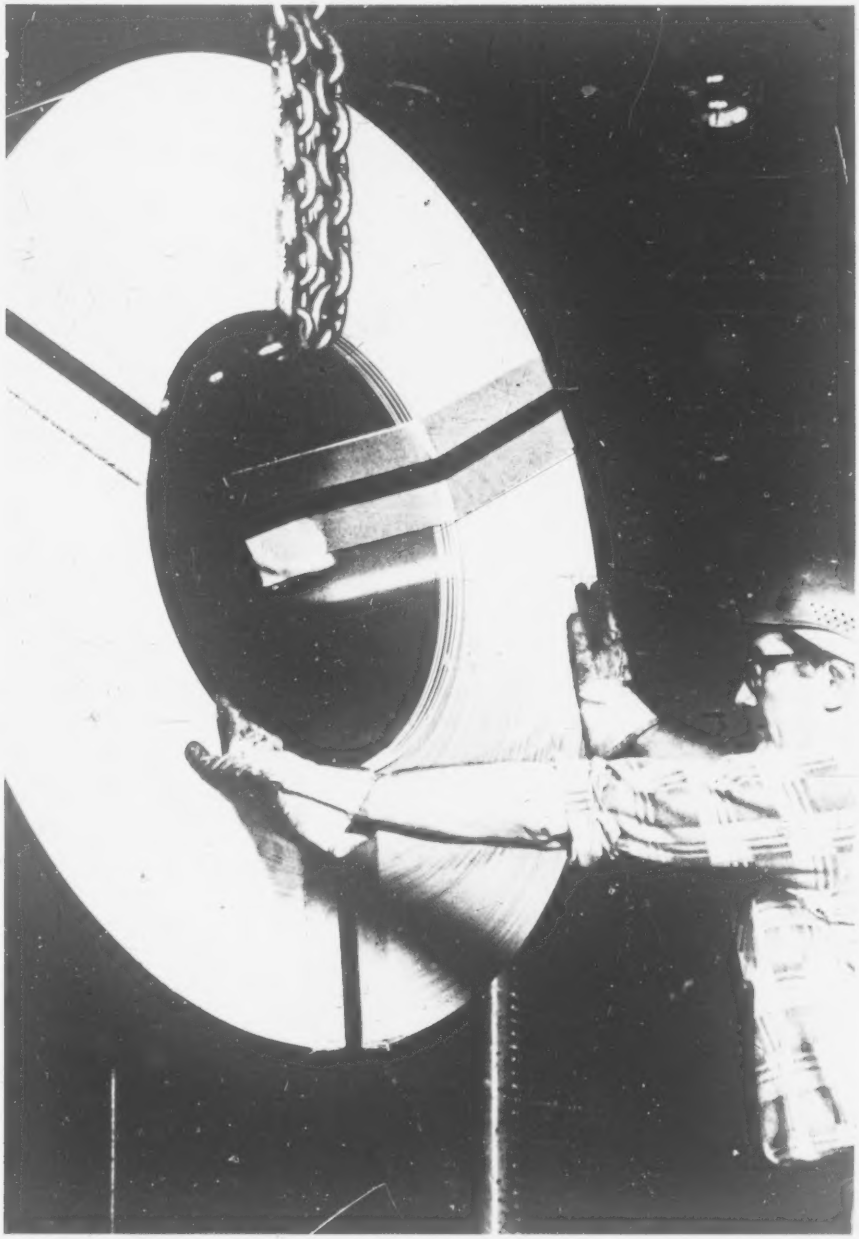
VENEZUELA

	1979	1978	1977	1976	1975	1974	1973	1972	1971	1970	1969
1. + Primary aluminum production	226.8	74.0	47.8	51.2	49.5	43.2	27.7	25.3	24.7	24.7	14.5
3. + Imports of ingot	—	—	8.7	2.2	0.2	—	1.8	0.1	(a)	—	(a)
4. + Imports of mill products	19.8	29.9	17.0	10.5	5.2	2.1	4.3	4.4	4.6	2.1	6.3
5. + Recovery of secondary	10.2	11.0	1.4	2.0	0.7	1.4	—	—	—	—	—
6. − Exports of ingot	185.2	31.0	11.5	19.4	—	15.8	8.9	9.1	11.7	12.7	8.0
7. − Exports of mill products	—	—	—	—	—	0.1	0.6	0.6	0.2	0.1	—
8. = Apparent aluminum consumption	71.6	83.9	63.5	46.5	44.8	30.8	24.8	20.0	17.1	13.9	12.8
9. + Beginning inventory	11.2	1.2	4.1	9.4	1.6	1.7	5.0	4.4	4.5	3.4	5.2
10. − Ending inventory	20.2	11.2	6.1	3.5	8.1	1.6	2.8	5.0	4.4	4.5	3.4
11. ± Inventory change	+9.0	+10.0	+2.0	−5.9	+6.5	−0.1	−2.1	+0.6	−0.1	+1.1	−1.8
12. = Aluminum consumption	62.6	74.0	61.5	52.4	38.3	30.9	26.9	19.4	17.3	12.8	14.6
13. ÷ Mid-year population (mill.)	13.5	13.1	12.7	12.9	12.5	12.0	11.3	11.2	10.7	10.4	10.0
14. = Per capita consumption (lbs.) (1)	10.6	12.8	10.0	7.2	7.2	5.1	4.4	3.6	3.2	2.7	2.6
15. = Per capita consumption (lbs.) (2)	9.3	11.3	9.7	8.1	6.1	5.2	4.8	3.5	3.2	2.5	2.9

NOTES:
(1) Without inventory change
(2) Adjusted for inventory change
(a) Less than 05 thousand short tons

SOURCE: Aluminio del Caroni, S.A., Venezuela

Detail may not add to totals due to rounding



Over 300 million pounds of aluminum sheet were consumed by the passenger car industry during 1979. Auto makers use aluminum to lighten their vehicles for better mileage.

ACSR AND ALUMINUM CABLE, BARE—Aluminum stranded conductor reinforced by a core of steel (ACSR), or aluminum (ACAR); or any other bare stranded aluminum conductor.

ATOMIZED POWDER—Powder produced by blowing or asperating molten metal through an orifice.

CASTING—A product made by pouring moulten metal into a mold of a desired shape and letting it harden.

CONDUCTOR REDRAW ROD (CONTINUOUS-CAST OR ROLLED)—A solid round product that is long in relation to cross section, 0.375" or greater in diameter, produced by continous casting followed by size-rolling, or by rolling from D.C. cast ingot, suitable for drawing into electrical conductor wire.

DIRECT MILL USES—Finished product applications supplied for the most part directly from mills rather than from distributors or jobber warehouses.

DRAWING STOCK—See Conductor or Non Conductor Redraw Rod.

DRAWN TUBE—A hollow product that is long in relation to its cross section, which is round, square, rectangular, hexagonal, octagonal, or elliptical in shape, and brought to final dimensions by drawing.

DROSS AND SKIMMINGS—The mixture of oxides and other impurities which float to the surface of molten aluminum and is skimmed off.

EXTRUDED PIPE AND TUBE—A hollow product formed by extruding that is long in relation to its cross section, which is round, square, rectangular, hexagonal, octagonal, or elliptical in shape.

EXTRUDED ROD AND BAR—A solid product produced by extruding (sometimes brought to final dimensions by drawing) that is long in relation to cross section, which is round, square, rectangular, hexagonal, or octagonal in shape and 0.375" or greater in diameter or in at least one perpendicular distance between parallel faces.

EXTRUDED SHAPES—A product produced by extruding, that is long in relation to its cross-sectional dimensions and has a cross section other than that of rod and bar and pipe and tube.

EXTRUSION INGOT (BILLET)—A solid or hollow cast form, usually cylindrical, suitable for extruding.

FLAKED POWDER—Powder consisting of flat or scale-like particles of a thickness small compared with other dimensions, produced by milling in the presence of a lubricant.

FOIL—A flat rolled product, rectangular in cross section, of thickness less than 0.006".

FORGINGS (EXCLUDING IMPACT EXTRUSIONS)—A product worked to a predetermined shape by one or more processes such as hammering, upsetting, pressing, rolling, etc.

GENERAL LINE DISTRIBUTOR—Warehouses and sells a number of mill products to a wide variety of customers.

IMPACTS (EXCLUDING COLLAPSIBLE TUBES AND CANS)—A product formed in a confining die from a metal slug, usually cold, by rapid simple stroke application of force through a punch, causing the metal to flow around the punch and/or through an opening in the punch or die.

INTEGRATED PRODUCER (OR SUPPLIER)—For statistical reporting, a company which produces primary aluminum ingot in the United States and produces mill products from it.

METALLURGICAL/DESTRUCTIVE USES—Applications wherein, because of the way it is used, aluminum either loses its identity or is lost and cannot be recovered. Major uses include the deoxidizing of steel and reduction of ferroalloys; steel and other nonferrous metal alloys; steel coating; and such other applications as chemicals and catalysts.

MILL PRODUCTS—Metal that has been fashioned into an intermediate or semifabricated form in preparation for making a finished product. Example: sheet, a mill product, is used to make residential siding, a finished product.

NET SHIPMENTS—Excludes intra-industry shipments for further fabrication. It is the most accurate measure of industry output to markets because it eliminates duplication. Reported receipts of aluminum for further processing are subtracted.

NONCONDUCTOR REDRAW ROD (CONTINUOUS-CAST OR ROLLED)—A solid round product that is long in relation to cross section, 0.375" or greater in diameter, produced by continuous casting followed by size-rolling, or by rolling from D.C. cast ingot, suitable for drawing into nonconductor wire.

NONINTEGRATED FABRICATOR (OR SUPPLIER)—For statistical reporting, a U.S. mill product fabricator which is not affiliated with a domestic primary ingot producer.

OTHER INGOT AND MOLTEN METAL, PRIMARY—For statistical purposes, a cast form other than extrusion ingot (or molten metal), shipped by an integrated producer or nonintegrated fabricator from a company-owned facility not exclusively devoted to producing secondary ingot.

OTHER INGOT AND MOLTEN METAL, SECONDARY—For statistical purposes, a cast form other than extrusion ingot (or molten metal), principally produced from aluminum scrap to specification by secondary smelters (or others at a facility exclusively devoted to producing ingot from scrap for sale); excludes remelt scrap ingot (RSI) which is considered scrap until remelted and cast into specification ingot.

OTHER ROD AND BAR (CONTINUOUS-CAST OR ROLLED)—A solid, round, square, rectangular, hexagonal, or octagonal in shape produced by continuous casting or rolling, that is long in relation to cross section, 0.375" or greater in diameter or in at least one perpendicular distance between parallel faces; other than redraw rod and D.C. cast ingot.

PASTE—A blend of powder or flake with a thinner or plasticizer.

PLATE, NONHEAT-TREATABLE—A flat rolled product, rectangular in cross section, 0.250" or greater in thickness, which can be strengthened only by cold work.

PLATE, HEAT-TREATABLE—A flat rolled product, in 2000, 6000, or 7000 alloy series (except 7072), rectangular in cross section, 0.250" or greater in thickness, which can be strengthened by a suitable thermal treatment.

POWDER—An aggregate of discrete particles of aluminum, substantially all of which are finer than 1,000 microns (minus 18 mesh).

RECEIPTS—The metal physically received by a company for further processing.

REIMPORTS—Mill products that have been exported, partially processed outside the United States, and imported back to the United States while still in a mill product stage.

ROLLED STRUCTURAL SHAPES—A structural shape produced by hot rolling.

SECONDARY SMELTER—A company whose facilities are exclusively devoted to producing ingot or molten aluminum from scrap.

SEMIFABRICATED PRODUCTS—See Mill Products.

SHEET, NONHEAT-TREATABLE—A rolled product, flat or coiled, rectangular in cross section, of 0.006" thickness but under 0.250" thickness, which can be strengthened only by cold work.

SHEET, HEAT-TREATABLE—A rolled product, in 2000, 6000, or 7000 alloy series (except 7072), flat or coiled, rectangular in cross section, of 0.006" thickness but under 0.250" thickness, which can be strengthened by a suitable thermal treatment.

STATISTICAL ADJUSTMENT—An adjustment made to product shipment data to account for net shipments of aluminum reported by the Bureau of the Census which are believed to be either over- or understated due to excessive or insufficient reporting of receipts. The addition of the statistical adjustment reconciles the amounts reported by the Bureau of the Census with the net shipments that the Aluminum Association feels are more correct.

WELDED TUBE—A hollow product that is long in relation to its cross section, which is round, square, rectangular, hexagonal, octagonal, or elliptical in shape, produced by forming and seam-welding sheet longitudinally.

WIRE, BARE, CONDUCTOR AND NONCONDUCTOR—A solid wrought product that is long in relation to its cross section, which is square, round, rectangular, hexagonal, or octagonal in shape, whose diameter or greatest perpendicular distance between parallel faces (except for flattened wire) is less than 0.375".

WIRE AND CABLE, INSULATED OR COVERED—Aluminum electrical conductor wire or stranded conductors that are insulated or covered.

The following publications are available from the Aluminum Association, inc.

- Publications Guide of the Aluminum Association
- Film Guide of the Aluminum Association
- About the Aluminum Association (a brochure)

Write to the Publications Department, the Aluminum Association, Inc., 818 Connecticut Avenue, N.W., Washington, D.C. 20006.

Virtually all joining and fabricating processes can be used with aluminum. Welding, shown here, is used to speed construction of an aluminum truck trailer assembly.